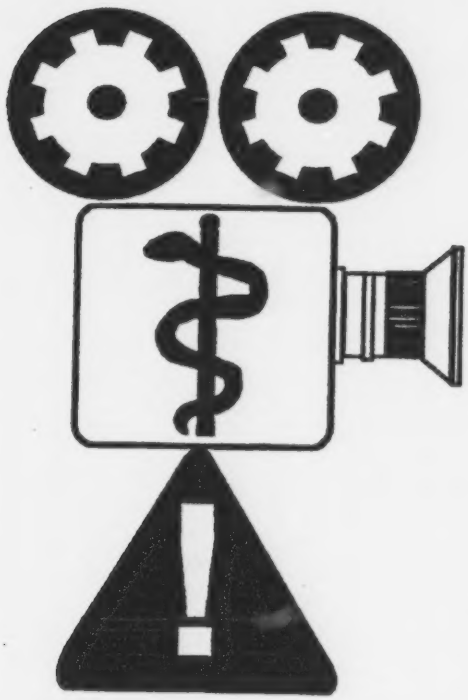
Ontario

Safety Guidelines for the Film and Television Industry in Ontario

5th Edition – June 2009



Health and Safety Guidelines

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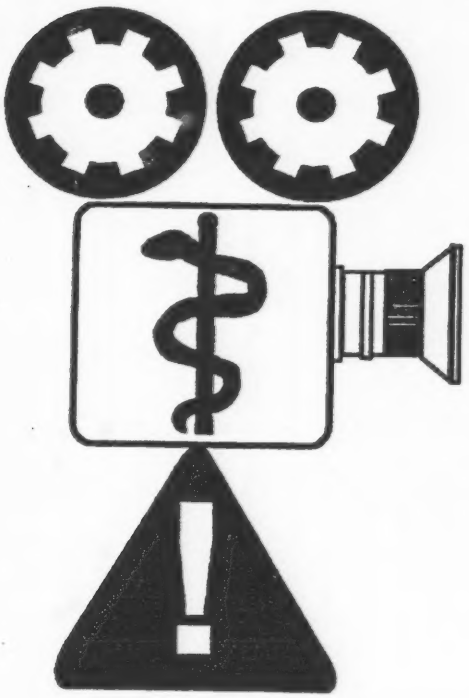

Ministry of Labour
Operations Division

Ontario Film and Television Industry
Section 21 Advisory Committee

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INTRODUCTION

The Film and Television Industry is a unique business. It also presents unique and unusual occupational health and safety hazards to its workers.

This fact was recognized by members of the Industry and the Ministry of Labour who came together on May 11, 1988, for the first meeting of the Ontario Film and Television Safety Committee.

This is the 5th Edition of the guidelines and replaces those originally published in November 1990, the 2nd Edition of September 1992, the 3rd Edition of March 1997 and the 4th Edition of January 1999. This edition contains 17 new guidelines covering topics such as: First Aid, Production Company Stunt Plan Review, Stunt Plan, Transportation, Railway and Railway Crossings, Camera Cars, Process Trailer and Towed Vehicles, Camera Boom Vehicles, Camera Cranes, Working at Heights, Mobile Elevating Equipment, Rigging, Hot Air Balloons, Craft Service and Food Catering, Carpentry and Woodworking, Indigenous Pests, Industrial and Construction Regulations and Post Production Facilities.

The Occupational Health and Safety Act (the Act) is the primary source for the issues and information in this document. Each employer/producer, supervisor and working professional ("worker") needs to be familiar with the provisions of the Act and the regulations that apply to film and television work environments. All of these workplace parties have responsibilities under the Act and the regulations. It is important to note that the Act considers all self-employed independent contractors to be "workers".

In the context of film and television workplaces, inspectors with the Ministry of Labour will apply the requirements of the Occupational Health and Safety Act and the relevant regulations made under the Act such as Regulations for Industrial Establishments, Workplace Hazardous Materials Information System (WHMIS) Regulation, and Regulations for Construction Projects. Ministry inspectors will also be made aware of these Guidelines, but **it is important to remember that their responsibility is to apply and enforce the law and they are not bound by or obliged to apply the Guidelines.**

These Guidelines have been prepared by representatives of the industry on the Section 21 Committee Health and Safety Advisory for the Film and Television Industry to assist employers/producers, supervisors and working professionals in determining the ways they may best comply with their obligations under the Act and the relevant regulations made under the Act. Following the recommendations and the guidelines does not relieve the workplace parties of their obligations under OHSA. The Committee was assisted by experts in the various skills, hazards and techniques mentioned throughout this document (see Acknowledgements, page iii).

The Guidelines recommend realistic procedures to develop methods for identifying potential hazards in our work environments, in order to increase our productivity and to protect those working in the film and television industry. Safe procedures do not involve losing the appearance

of risk that can be such a vital quality of the production. These Guidelines are intended to assist people involved in the industry and not replace the laws that are in place. To determine their legal workplace duties and rights, employers/producers, supervisors and working professionals are urged to refer to the actual legislation. The Guidelines will be continually updated and augmented, to deal with the changes in the film and television field as they occur.

The Guidelines are for everyone in the film and television field. They aim to educate every worker, in all disciplines, at all levels, in the value of hazard recognition and safe working practices. Education is the foundation of any health and safety program, with knowledgeable performers, support staff, and management working together. The more workers and management know, the more effectively they can identify specific needs and issues before those issues become problems.

Safe practice in a safe environment makes for an efficient operation. At all times we must be vigilant in identifying potential hazards by being aware of where we are, what we are doing, with what and to whom. Safety is cost effective in both human and economic terms.

ACKNOWLEDGEMENTS

The Ontario Film and Television Section 21 Advisory Committee is appointed by the Minister of Labour. The tripartite committee consists of Labour, Management and Government representatives. The Ministry of Labour would like to extend their appreciation to the following people who have made the "***Safety Guidelines for the Film and Television Industry in Ontario***" possible.

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Sgt. Phil Geritts, Toronto Police Services, ETF
Avi Federgreen, DGC Ontario
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Al Cotter, SPFX Consultant
Brian Dwight, Dwight Crane
Gary MacLeod, Rigging Consultant
Steve Lucescu, ACTRA Stunt Caucus
Brian Garry, MTCU & the Electrical Steering Committee

Working At Heights/ Fall Protection Sub Committee
Industrial Construction Sub Committee
Live Performance Health and Safety Advisory Committee
Child Performers Sub Committee

Previous Members **Phil Elliot**, IATSE Local 873
Colleen Norcross, IATSE Local 667
Catherine Middleton, DGC Ontario
Tim Storey and **Saira Qureshi-Wennekers**, IATSE Local 411

SAFETY RESPONSIBILITIES AND DUTIES

Safety is the responsibility of every individual engaged on a film or television production and takes precedence over expediency or short cuts. It is in the interest of high standards of safety on a set that any report of unsafe elements be welcomed as a sign of conscientiousness and professional competence. The OHSA requires workers to report any known workplace hazard to their employer or supervisor.

In most cases, as an employer or constructor, for example, it is the Producer's responsibility to take all reasonable precautions to protect the health and safety of all workers associated with the production. In order for there to be clear reporting lines to the Producer, productions are typically structured into Departments with Department Heads.

Workers have a responsibility to work safely and in compliance with the applicable health and safety legislation. This may include reporting any known hazardous situation to his/her Department Head or the crew Health and Safety Representative. The person receiving such a report is required to inform the Production Manager. If the Production Manager is not available, then the person receiving such a report should inform an Assistant Director or any "Other Person" designated by the Producer with greater access to the Producer, of all injuries or any hazardous situations. Production Managers or Other Persons should report to the Producer so that the Producer can assess what action may be required. An Other Person could be, but is not limited to, an Assistant Director, a Department Head, the person who is overseeing the work, or the crew Health and Safety Representative.

Given the nature of the industry, some workers, particularly Department Heads and those in a creative position, can impact not only the location of production but also can impact how a production set is structured and run. Where a worker has the ability to influence the working conditions of workers in general, a heightened awareness of health and safety issues should prevail and should require that all appropriate safeguards are in place.

These workers may include, but are not limited to, a Director, Director of Photography, Production Manager, 1st Assistant Director, Location Manager, Production Designer, and other Department Heads which are listed in *Appendix A – Department Heads*.

Note: An Ontario Ministry of Labour Inspector may find those who direct work to be supervisors under the Occupational Health and Safety Act. This determination will be based on the specific facts of the situation, and may or may not be consistent with the reporting structure or the collective agreements which exist.

Under the OHSA, a supervisor must carry out certain duties including:

- Ensuring that a worker complies with the OHSA and regulations [section 27(1)(a)];
- Ensuring that any equipment, protective device or clothing required by the employer is used or worn by the worker [section 27(1)(b)];

- Advising a worker of any potential or actual health or safety dangers known by the supervisor [section 27(2)(a)];
- If prescribed, provide a worker with written instructions about the measures and procedures to be taken for the worker's protection [section 27(2)(b)]; and
- Take every precaution reasonable in the circumstances for the protection of a worker [section 27(2)(c)].

The regulations under the OHSA, if applicable, contain additional duties of supervisors. Supervisors who have been convicted for an offence of failing to comply with their duties under the OHSA, or for a contravention of the OHSA and its regulations, may be subject to the penalties set out in section 66 of the OHSA, which may include fines of up to $25,000 and/or terms of imprisonment of up to twelve months, or both.

The following is a non-exhaustive list of safety responsibilities and duties that may apply to Workers and/or Producers who may be employers, constructors or supervisors under the OHSA. In addition, other safety recommendations are included.

Executive Producer/Producer(s)

As an employer, constructor, supervisor or worker under the OHSA, the Producer should:

1. Provide and maintain at all workplaces any first aid supplies and services, as required under *R.R.O. 1990 Regulation 1101, First Aid Requirements*, as required under the Workplace Safety and Insurance Act, 1997.
2. Ensure all accidents are reported as required (i.e. Workplace Safety and Insurance Board (WSIB), relevant insurer and applicable union or guild etc.).
3. It is recommended that a Producer ensure all Workers and Producers, including out-of-town Producers and Workers, have access to and are aware of the contents of the current "*Safety Guidelines for the Film and Television Industry in Ontario*".
4. It is recommended that a Producer ensure that stunts and special effects are scheduled in consideration of hours already worked, days already worked, turnaround, etc.
5. Comply with the Occupational Health and Safety Act legislation and regulations, which may include:
    a) Ensure the implementation of reasonable safeguards to ensure the safety of all workers associated with the Production;
    b) Promote safety and provide safe working conditions;
    c) Only engage Workers and Contractors who are appropriately trained to perform their jobs;
    d) Ensure all Workers and Contractors who may be affected by a potential hazard are made aware of the existence of the hazard to which they may be exposed in the course of production, as well as other health and safety concerns;

e) Ensure all sets and locations have been properly assessed for any potential health and safety issues and proper remedies and safeguards are implemented to deal with any of these issues. Ensure all environmental or structural hazards identified are addressed and corrected, and reported to the unions and all affected cast and crew that the safeguards have been implemented; and

f) Ensure that crew stewards and Health and Safety Representatives are appointed by the crew or, if represented by a Union, are appointed by their Union.

Production Manager / Unit Production Manager

Under the designation and direction of the Producer, the Production Manager or Other Person designated by the Producer should:

1. Ensure a direct line of communication to the Producer(s).
2. Comply with the Occupational Health and Safety Act legislation and regulations.
3. Schedule stunts and special effects in consideration of hours already worked, days already worked, turnaround, etc.
4. Report all accidents to the Producer(s) and follow up to ensure the reporting process to the WSIB, relevant insurer and applicable union or guild, etc. is completed.
5. Use a call sheet and include safety information which should include, but may not be limited to:
    a) notification of pyrotechnics, stunts, etc.;
    b) identification of crew Health and Safety Representative(s);
    c) emergency numbers (nearest hospital);
    d) emergency personnel on set (i.e. physician, set nurse or paramedic);
    e) reference to relevant health and safety guidelines; and
    f) location of safety, fire and first aid equipment.

Director

Under the designation and direction of the Producer, the Director or Other Person designated by the Producer should:

1. Require safe working conditions on set and compliance with the Occupational Health and Safety Act legislation and regulations.
2. In conjunction with the Producer, Director of Photography, Production Manager, 1st Assistant Director, Location Manager and crew Health and Safety Representative, require that appropriate safeguards are in place.
3. Ensure a direct line of communication to the Producer(s) and Director of Photography.

Director of Photography

Under the designation and direction of the Producer, the Director of Photography or Other Person designated by the Producer should:

1. Require safe working conditions on set and compliance with the Occupational Health and Safety Act legislation and regulations.
2. In conjunction with the Producer, Director, Production Manager, 1st Assistant Director, Location Manager and crew Health and Safety Representative, require that appropriate safeguards are in place.
3. Ensure a direct line of communication to the Producer(s) and Director.

First Assistant Director

Under the designation and direction of the Producer, the First Assistant Director or Other Person designated by the Producer should:

1. Require safe working conditions on set.
2. In conjunction with Location Manager, will require that appropriate safeguards are in place and that an emergency plan has been devised and communicated to the crew Health and Safety Representative and all affected parties.
3. Schedule where possible stunts and special effects at the beginning of the shooting day.
4. Confer and consult with the crew Health and Safety Representative and/or the Stunt Coordinator, Special Effects Coordinator, Weapons Handler, Animal Handler and Department Heads so that all reasonable safeguards are in place.
5. Schedule time to allow the Stunt Coordinator, Special Effects Coordinator, Weapons Handler, Animal Handler and Department Heads to inform the performers and crew of safety considerations.
6. Communicate on-set developments or potential hazards to the Producer, Production Manager and crew Health and Safety Representatives.
7. Ensure a copy of the Occupational Health and Safety Act and the current "*Safety Guidelines for the Film and Television Industry in Ontario*" are available on each worksite.
8. It is recommended that a 2-5 minute meeting with all on-set personnel be held on every day of shooting, at call time, to define health and safety issues (i.e., everything from fire exits to smoking areas to physical stunts and mechanical, pyrotechnical effects, animals, etc.).

Location Manager

Under the designation and direction of the Producer, the Location Manager or Other Person designated by the Producer should:

1. Require that *Guideline No. 33 Location Requirements* as per the "*Safety Guidelines for the Film and Television Industry in Ontario*" are fulfilled as applicable.

2. Inform the Producer of known environmental or structural hazards.

Department Heads

Under the designation and direction of the Producer, the Department Heads or Other Person designated by the Producer should:

1. Require that all department functions are performed in accordance with standard health and safety practices, and that all necessary precautions are observed, including the use of proper safeguards and means of personal protection, including a careful check of all new and relocated equipment before it is placed in operation.
2. Require that any necessary safety equipment and protective devices are being used or worn.
3. Encourage and inform their department personnel to identify possible hazards and how to avoid them.
4. Inform their department as to the properties of any chemicals or hazardous materials stored or handled by them, and emergency procedures to be followed.
5. Require that new personnel be made aware of department safety procedures.
6. Insist that any injured personnel secure first aid and/or medical attention and report all injuries to the Production Manager, and the crew Health and Safety Representative.
7. Require compliance with all the Occupational Health and Safety Act legislation and regulations.
8. Ensure the requirements of the *Workplace Hazardous Materials Information System (WHMIS),* Regulation 860, as made under the Occupational Health and Safety Act, be observed. Any worker performing activities or using materials covered by these regulations must be fully informed of all hazards.

Department Heads should, as necessary, hold informal safety meetings with work crews prior to job assignments where Workers may be exposed to hazards as well as other health and safety concerns.

These five (5) minute safety talks should demonstrate proper safety procedures required to complete the job; use safety bulletins or other handout training materials, introduce new workers to safety procedures, rules and practices, and make Workers aware of safety equipment and personal protective devices available for the job (i.e. respirators, gloves, hearing protection, etc.).

Worker/Contractor/Freelancer

Under the designation and direction of the Producer, the Worker/Contractor/Freelancer should:

1. Work safely, follow safety procedures and take an active role in protecting themselves and all other workers affected by their undertaking.
2. Comply with the safe work directions issued.

3. Participate in the selection of crew stewards and Health and Safety Representatives.
4. Comply with the Occupational Health and Safety Act legislation and regulations.
5. Any worker who has reason to believe the physical condition of the workplace is likely to endanger his/her health may refuse to work. The worker must immediately tell the supervisor or employer that work is being refused and explain why. The supervisor or employer must investigate the situation immediately.
6. If the refusing worker is not satisfied with the results of the investigation, the worker can continue to refuse to work. At this point the "second stage" of a work refusal begins (see Procedure for Work Refusal, page xiii)

It is in the interest of high standards of safety on the set that any report of unsafe elements be welcomed as a sign of conscientiousness and professional competence. The OHSA requires workers to report any known workplace hazard to their employer or supervisor.

Health and Safety Committee Representative

Generally, most workplaces regularly employing twenty (20) or more workers, and in the case of a construction site, regularly employing twenty (20) or more workers for a period greater than three months, are required to have a Joint Health and Safety Committee. At least half the members on the committee must be workers employed at the workplace who do not exercise managerial functions. This is a requirement of section 9 the Occupational Health and Safety Act.

Such Health and Safety Committee Representatives should:

1. Have access to and be knowledgeable of the Occupational Health and Safety Act.
2. Be knowledgeable of the current "*Safety Guidelines for the Film and Television Industry in Ontario*".
3. Ensure that all Workers have access to a copy of the current "*Safety Guidelines for the Film and Television Industry in Ontario*".

Crew Health and Safety Representative

Where a Joint Health and Safety Committee is not required, for example, at workplaces regularly employing less than twenty (20) workers but regularly more than five (5) workers, at least one health and safety representative is required. The representative should be selected by workers who do not exercise managerial functions or, where there is a trade union or trade unions representing the workers, by the trade union or trade unions.

It is recommended that the Worker Health and Safety Representative be identified on the call sheet and:

1. Be a representative for the production crew and performers in all matters concerning safety.
2. Have access to and be knowledgeable of the Occupational Health and Safety Act.

3. Be knowledgeable of the current *"Safety Guidelines for the Film and Television Industry in Ontario"*.
4. Ensure that all Workers have access to a copy of the current *"Safety Guidelines for the Film and Television Industry in Ontario"*.
5. Ensure all sites comply with the *R.R.O. 1990, Regulation 1101, First Aid Requirements,* as made under the Workplace Safety and Insurance Act, 1997. This includes, but is not limited to, the provision of the correct size and type of first aid kit and trained first aid providers.
6. Observe fire regulations and inform the appropriate fire department of fire effects.

Generally speaking, a health and safety representative has the same responsibilities and power as a joint committee member. These may include:

- Identifying workplace hazards;
- Inspecting the workplace at least once a month;
- Being consulted about workplace testing;
- Making recommendations to the employer; and
- Investigating work refusals and serious accidents.

Note: A representative is entitled to be paid the regular or premium rate, whichever is applicable while carrying out inspections and investigations.

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Revised: Jun/09

SAFETY SIGN-OFF FORM

The following parties acknowledge that they will be undertaking a potentially hazardous task and further acknowledge, that a full and detailed discussion with the relevant parties has taken place and that those involved are aware and agree that the necessary steps have been taken appropriate to the situation to ensure safety.

Date	
Location	
Details of Sequence	
Time of Day	

SIGN OFFS

a) Producer	
b) Applicable crew member (s)	

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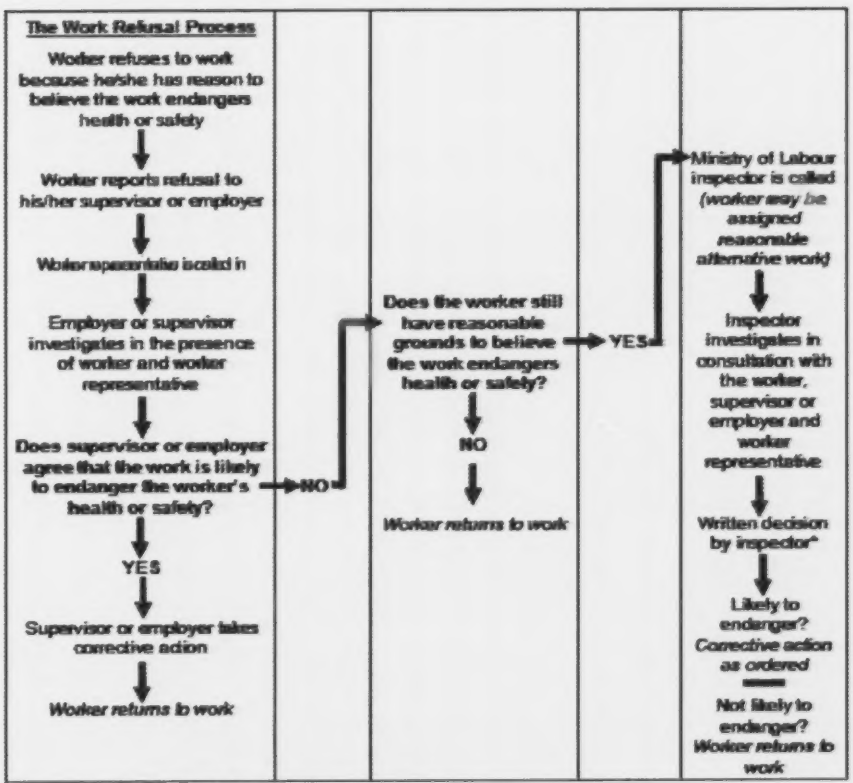
THE WORK REFUSAL PROCESS


The Work Refusal Process
Worker refuses to work because he/she has reason to believe the work endangers health or safety
Worker reports refusal to his/her supervisor or employer
Worker representative is called in
Employer or supervisor investigates in the presence of worker and worker representative
Does supervisor or employer agree that the work is likely to endanger the worker's health or safety?
NO
YES
Supervisor or employer takes corrective action
Worker returns to work
Does the worker still have reasonable grounds to believe the work endangers health or safety?
NO
Worker returns to work
YES
Ministry of Labour inspector is called (worker may be assigned reasonable alternative work)
Inspector investigates in consultation with the worker, supervisor or employer and worker representative
Written decision by inspector*
Likely to endanger? Corrective action as ordered
Not likely to endanger? Worker returns to work

*Inspector's order can be appealed

For full procedure see Section 43 under the Occupational Health and Safety Act.

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FIRST AID

1. This guideline should be read in conjunction with the Regulation for First Aid Requirements (R.R.O. 1990, Reg. 1101) under the Workplace Safety and Insurance Act, 1997.

2. The location of first aid kit(s) should be recorded on the call sheet. Also to be noted on the call sheet are the identities of the First Aider, set Nurse(s), Paramedic(s) and/or Doctor(s), as well as the designated Health and Safety Representative(s), for each union.

3. Every person should take precautions that are reasonable in their specific circumstances to protect their own health and safety and that of all cast and crew at or near the workplace, including the general public.

4. At least one (1) person on each set or location (including prep work) should be identified as a First Aider. The identification of the First Aider(s) should be determined by the Producer taking into consideration shooting and location requirements. The First Aider(s) will be:

    a) in charge of a first aid kit; (provided by the Producer with the items required by Reg. 1101)

    b) available to treat an injured person(s);

    c) easily accessible for prompt treatment; and

    d) qualified in first aid to the standards required by Reg. 1101.

5. Anyone who sustains an injury at a workplace should, without undue delay, use the first aid services and supplies provided by the Production Company.

6. Where first aid is administered to an injured person in the workplace, the applicable incident reporting forms shall be filed in a timely manner. The following information should be included:

    a) the name of the injured person;

    b) the date and time of the injury;

    c) the exact location and nature of the injury to the worker;

    d) the time when first aid was administered;

    e) the nature of first aid treatment provided;

    f) the name of the person who provided the first aid (e.g. First Aider, Nurse, Doctor or Paramedic);

    g) the name of the person to whom the injury was reported; and

    h) the name of any witnesses to the accident or incident.

Note: Extra care needs to be taken when collecting, using and disclosing this information, from a privacy perspective. Confidential medical information should be collected and maintained in a manner consistent with the Personal Health Information Protection Act, 2004.

7. The production company at its expense shall ensure that first aid supplies and services required by the regulations are provided, supplied, maintained, and easily accessible to the cast and crew during working hours. Confidential medical information should be collected and maintained in a manner consistent with the Personal Health Information Protection Act, 2004.

8. Prior to the commencement of any work during the course of the production, the Production Manager, in consultation with the appropriate key personnel, should submit to the Producer for approval a listing of first aid services to be provided which should include:

    a) the number of cast and crew as determined by the production, shooting and location requirements;

    b) description of first aid available;

    c) the planned methods of emergency transportation; and

    d) the methods of two-way communication available.

    Note: Sections 8, 9 and 10 of Reg. 1101 prescribe specific first aid items that must be provided depending on the size of the workforce. When 200 or more cast and crew members are working on any one shift, a first aid room should be provided by the Producer, and contain the items required by Reg. 1101.

9. Where cast and crew are engaged in work at a location, the Production Manager, with the assistance of the Location Manager, should provide the Heads of Departments with:

    a) a list of emergency contacts;

    b) a planned method of emergency transportation; and

    c) a suitable first aid kit at each location and trained first aid personnel.

10. When stunt, SPFX, fire, underwater, or work at water's edge, etc. is scheduled, a properly trained medical provider for the circumstance (i.e. paramedics, lifeguards, etc.) should be standing by on set to administer medical treatment and emergency transportation as may be required. This guideline should be read and used in conjunction with Guideline #31, Water Hazards.

Issued: Jun/09

HAZARDOUS MATERIALS (WHMIS)

Workplace Hazardous Materials Information System Regulation (R.R.O. 1990, Regulation 860) generally requires suppliers and employers to identify hazardous materials, instruct/train their workers of proper use, handling and appropriate emergency response.

1. It is the recommended that the individual having control of, or being in possession of, any hazardous material to notify the production office, or cause them to be notified, and to advise the Assistant Director and Health and Safety Representative of location, purpose and hazards.

2. It is the responsibility of the Producer to ensure that hazardous materials are clearly marked and safely stored until use.

3. Hazardous materials should only be used under the direct supervision of an experienced individual knowledgeable in its effect and potential hazards.

4. The use of hazardous materials should be preceded by an announcement to the cast and crew of the hazard potential and emergency response plan.

5. Regulation 860 made under the Occupational Health and Safety Act, stipulates the requirements for all employers in the Province.

NOTE: In Ontario, WHMIS applies to all workplaces covered by the Occupational Health and Safety Act, and to all federal government workplaces. WHMIS applies to hazardous materials known as controlled products. For more information, please see the Occupational Health and Safety Act and WHMIS regulation and the guide to WHMIS which can be viewed and printed from the Ministry of Labour website at www.labour.gov.on.ca.

These can be purchased from:

ServiceOntario Publications
Tel: 416-326-5300 or 1-800-668-9938

To order online go to:
http://www.publications.serviceontario.ca

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GUIDELINE NO. 3

COMMUNICATION REGARDING POTENTIALLY HAZARDOUS PROCEDURES

1. Prior to the performance of all stunts, potentially hazardous work situations, or pyrotechnic effects (e.g. working with explosives, explosive devices, flammable or combustible liquids, gas or chemicals on any set), the Production Manager through the 1st Assistant Director, should give notification to all personnel. The call sheet should state that explosive or pyrotechnical special effects will be utilized.

   The crew Health & Safety Representative or Joint Health and Safety Committee Representative should also be involved in all health and safety meetings.

2. Before any explosive or potentially hazardous sequence is to be performed, a meeting should be called for all personnel involved and they should be thoroughly briefed at a meeting on the site where the explosion sequence is to take place. This meeting should include an "on-site walk-through" or a "dry run" with the Special Effects Coordinator and all the personnel involved in the event. The Special Effects Coordinator should plan and provide acceptable avenues of escape. An understanding of the intended action, possible deviations and authority to abort should be made clear.

3. If, at any time, substantial changes become necessary, a meeting should again be called for all personnel involved in the hazardous procedure to confirm everyone understands and agrees to the change(s).

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Revised: Jan/99
Revised: Jun/09

PRODUCTION COMPANY STUNT PLAN REVIEW

This document has been designed to assist the Production Company in stunt planning. It is to be used in conjunction with the written stunt plan. It is the responsibility of the Producer or other person, as designated by the Producer, to ensure the items set out in this guideline are completed to ensure the safety of all persons involved in the stunt.

STUNT PREP PROCEDURES

1. Review the completed stunt diagram from the stunt plan.
2. Send a copy of the complete stunt plan to the insurance company. Where required, a copy should also be sent to the applicable local film and television office.
3. Notify all personnel involved in creating the stunt and organize a meeting to detail a step-by-step plan of the stunt(s) with all personnel involved. Discussion should include the hazards involved, measures to reduce hazards, emergency procedures and the location of emergency medical facilities. Conduct further meetings as necessary to ensure any changes are communicated to personnel.
4. Ensure cast and crew understand the details of the stunt and emergency plans and that all questions have been responded to completely.
5. Schedule to allow for adequate training, set-up, rehearsal and filming time.
6. Make sure a back-up shooting plan is scheduled where necessary (e.g. change in weather conditions etc.).
7. Make sure an alternate ambulance has been arranged in the event an injured party must be transported.
8. In a complicated stunt, a dry run or a smaller version of the stunt should be performed prior to the day of the actual shoot to identify problems which might affect the successful execution of the stunt. As an example, if the stunt involves a flipped van skidding along a paved road, the contact between metal roof of the van and the pavement could create unwanted noise that affects communication between the stunt persons inside the flipped van and the director.

SHOOT DAY PROCEDURES

1. Oversee a final briefing and dry run to ensure everyone understands the details of the stunt
2. If there are any changes to the stunt plan, ensure the entire plan is reviewed.
3. Allow for a safe holding location for all personnel during the stunt.

GUIDELINE NO. 4

4. Make sure that communications including cues are absolutely clear between everyone involved especially after last minute changes.

5. Ensure adequate time is allotted to inspect and reset prior to each take.

Address all of the following questions:

Note: This is not a comprehensive list of questions and does not relieve the workplace parties of their obligations under the OHSA.

☐Yes	☐No	☐N/A	Is personal protective equipment or any other equipment required? If yes, has the equipment maintenance and use been logged (e.g. cranes, rigging equipment, fire suppression equipment, etc.).
☐Yes	☐No	☐N/A	Have Material Safety Data Sheets (MSDS) been obtained for any hazardous substance to be used?
☐Yes	☐No	☐N/A	Have you planned procedures for: • Human Error • Mechanical Error • Outside Interference • The Unexpected • Natural Acts (i.e. weather changes)?
☐Yes	☐No	☐N/A	Have stunt personnel been allowed adequate time to inspect the set/location, the equipment, wardrobe, personal safety equipment and props?
☐Yes	☐No	☐N/A	Have the following personnel been briefed on the specifics of the stunts? For example: • Cast • Medic/First Aid • Key Crew Personnel • Fire • Police • Stunt Performers • Security Officers • Assistant Directors • Special Effects
☐Yes	☐No	☐N/A	When changes have been made and are within the scope of the plan, have all parties been notified and are they comfortable with the changes?

☐Yes ☐No ☐N/A When animals are involved, have the Animal Handling Guidelines (Guideline No.40) been reviewed?

☐Yes ☐No ☐N/A Have proper arrangements been made for emergency medical services as outlined in the stunt plan?

- Is a doctor/nurse/ medic needed on the set?
- Is a stand-by ambulance or helicopter needed?
- Has the nearest emergency medical facility been identified?

☐Yes ☐No ☐N/A Have appropriate fire suppression methods been put in place?

☐Yes ☐No ☐N/A Has the local Fire Department been consulted?

Date:

Production Company:

Producer:

(PRINT NAME) (SIGNATURE)

Issued: Jun/09

GUIDELINE NO. 5

STUNT PLAN

This document will aid the Stunt Coordinator to detail and assess the stunt sequence and actions.

This assessment should include any safety considerations given within the scope of the original design. It should be completed for each stunt sequence and should refer to other applicable Guidelines (i.e. Guideline #14 Seat Belts, Harnesses, Roll Cages and Airbags for Vehicles, Guideline #15 Motorcycles, Guideline #25 High Fall, Guideline #30 Underwater Stunts and Underwater Film Operations, etc.).

The Production Company will retain one copy of the stunt plan in the Production Office and provide one copy to the insurance company and each applicable union.

A copy of the plan should be submitted to the local fire department and other authorities having jurisdiction over stunts involving fire or pyrotechnics.

This information must also be made available to all personnel involved in the preparation and performance of the stunt sequence.

This will allow all parties to review and be aware of the action plan, risks involved and controls as may be necessary for the intended sequence.

STUNT PREP PROCEDURES

1. Complete this form with stunt diagram (enclosed).
2. Notify all personnel involved in creating the stunt (e.g. SPFX, art dept, props, wardrobe, hair) of the stunt plan.
3. Conduct a meeting detailing the step by step stunt plan. Identify all the hazards, both individually and/or collectively, to all those involved (e.g. what will happen, how and when; hazards and controls implemented).
4. This meeting must include the emergency procedures and the location of emergency medical personnel/facilities and stunt safety personnel.
5. Answer any questions and/or respond to concerns completely within a reasonable amount of time.
6. Allow for adequate training and/or rehearsal time and document training with a logbook.

SHOOT DAY PROCEDURES

1. On the day of the shoot, review and conduct a dry run with all involved.
2. If there are any changes to the stunt plan, review the entire plan.
3. Make sure that communications, including cues, are absolutely clear between everyone involved especially after last minute changes.
4. Ensure adequate time is allotted to inspect and reset prior to each take.

ISSUES TO BE CONSIDERED TO ENSURE THEY ARE ADDRESSED

Note: This is not a comprehensive list of questions and does not relieve the workplace parties of their obligations under the OHSA.

1. Do all stunt personnel have the required licenses or certification cards in their possession (e.g. SCUBA certification, motorcycle license etc.) and have they been verified?
2. Is there a helicopter involved? If yes, have safety rules/policies been reviewed and has personnel been notified and rehearsed?
3. Is any fixed-wing aircraft involved? If yes, have safety rules/policies been reviewed, has personnel been notified and rehearsed, and has the aerial coordinator's flight safety manual been reviewed?
4. Are cables or other special rigging involved? If yes, have safety signals/rules/policies been reviewed and have all cast, crew and stunt personnel been notified and rehearsed?
5. Have Material Safety Data Sheets (MSDS) been obtained for any hazardous substances that are to be used?
6. Has each piece of stunt equipment been carefully selected and inspected?
7. Do any modifications, to action or equipment, need to be made to ensure safety?
8. Is personal protective equipment or any other equipment required? If yes, has the equipment been carefully selected, and inspected (e.g. cranes, rigging equipment, fire suppression equipment, etc.)?
9. Does everyone clearly understand how communication will be maintained throughout the stunt?

10. Are there any physical conditions at the site of the shoot that may cause an unexpected hazard, such as telephone/street light poles?

11. Are there planned procedures for:

    - Human error
    - Mechanical error
    - Outside interference (loss of communication)
    - The unexpected
    - Natural acts (i.e. weather changes)

12. Have proper arrangements been made for emergency medical services?

    - Is a doctor needed on the set?
    - Is a stand-by ambulance or helicopter needed?
    - Has the nearest emergency medical facility been notified of your work?
    - Are fire protection and suppression equipment and/or personnel needed?

13. Have proper arrangements been made for fire protection, where required?

    - Fire extinguishers and persons trained to use them
    - Charged fire hose
    - Stand-by fire apparatus and trained crew

PRE-PLANNED STUNT INFORMATION AND SAFETY ASSESSMENT

Note: This is not a comprehensive list of questions and does not relieve the workplace parties of their obligations under the OHSA.

Current Date: _____

Production Title: _____

Production Company: _____

Scene Number(s): _____ Script Day Number: _____

☐ Day ☐ Night

☐ Interior ☐ Exterior

GUIDELINE NO.5

1. Location address(s) of stunt sequence to take place.

2. Location details as noted on survey: (e.g. gravel road, pot holes, narrow curve around gate area, rusty iron balcony, etc.).

3. Stunt as scripted or attach script page(s).

4. Describe the details of the stunt sequence/ scripted action to be performed and how they will be performed. Consistently and specifically state imperial or metric system. (e.g. km/hr vs. miles/hr; feet vs. meters, lbs vs. kg) Also state the range and scope of parameters that are anticipated for the performance for the stunt (e.g. vehicle speed may range from 60-70 km/hr).

GUIDELINE NO.5

5. Analysis of hazards and risk associated with the action/stunt (list for each character).

6. State how the hazards that may be encountered in the stunt performance are to be identified and managed? Provide details regarding any necessary controls to be put in place.

7. List the type(s) of safety personnel required (e.g. spotters, riggers, ETF, high angle rescue etc, fire suppression personnel).

8. List any medical personnel/emergency services required (e.g. stand-by doctors, nurses, paramedics, ambulance, fire truck etc.).

9. Provide details regarding a contingency plan:
   - Outline emergency procedures for responding to any significant failure of a component of the stunt;
   - Outline emergency procedures for responding to loss of communication with anyone involved in the stunt;
   - Outline emergency procedures for aborting a stunt;
   - Outline instructions for communicating with medical assistance in the event of an emergency; and
   - Outline emergency procedures for the evacuation of anyone injured.

GUIDELINE NO.5

PRE-PLANNED STUNT DIAGRAM

Also include location of stand-by safety personnel, cameras, crew, etc.

Signature of Stunt Coordinator

_____

(PRINT NAME) (SIGNATURE)

This document has been prepared by the Stunt Coordinator for the Producer and Production's acceptance.

DATE ACCEPTED _____ PRODUCER SIGNATURE _____

Issued: Jun/09

RESCUE PLAN

Individual safety plans for specific activities should incorporate, but are not limited to, rescue plans or emergency plans and general safety procedures, as required by the work. Such safety plans should also incorporate any corporate safety policies and procedures. Safety plans are to be reviewed at daily safety meetings and at all workplace locations, whether departmental or on set. The overall plan should be amended daily or as required, to allow for changes in venue, locations and personnel

Section 17 of O. Reg. 213/91 (Construction Regulations) imposes on obligation on a constructor to have written emergency procedures as well as other obligations. Section 26.1(4) imposes an obligation on the employer to have written procedures before use of fall arrest or safety net for rescuing a worker after a fall has been arrested.

Note: The items suggested in the rescue plan below are not comprehensive and do not relieve the workplace parties of their obligation under the OHSA.

A rescue plan should:

a) Identify the designated trained person(s) in charge of rescue.

b) Identify qualified on-site first aid personnel and the location of first aid and safety equipment, as required under the Regulation for First Aid Requirements (Reg. 1101). Crew members who have First Aid/CPR Certification and the nurse or paramedic on set and their location, should also be identified.

c) Ensure all equipment to be used in the event of a rescue is inspected and available at the work location for the rescue.

d) Identify the names and contact phone numbers of Emergency Medical Services (EMS) resources in the jurisdiction. For example, if needed, who would perform high angle rescue (e.g. fire department) and identify special skilled technicians and personnel.

e) Outline Emergency Services access, including meeting area to ensure evacuation from the worksite and nearest hospital. This outline must include cast and crew evacuation routes etc.

f) Include a viable pre-designated system of secondary communication. This may include hand signals, contact information i.e. cell phone numbers, alarm, alarm codes, etc.

g) Be developed where the work involves mobile elevated working platforms, stunts, rigging, etc. This plan must be communicated, posted on site and reviewed. This plan should include all operating manuals for equipment and rescue or emergency control procedures for any mechanical hoisting systems or elevating devices being used in the workplace. This includes planning all rigging systems.

h) Provide, where possible, annual rehearsal and review of any upgraded or amended procedures. In addition, any systems on location or site facilities (sprinkler systems, alarms and other devices, etc.) should be identified. This would typically apply to longer studio shoots such as TV series.

i) Include procedures to lock-out and secure activated devices (as required by s. 76 of Reg. 851 – Industrial Regulations) and/or compromised work areas such as any location with identifiable risks (working alone, working with pyrotechnics).

EXPLOSIVES AND/OR PYROTECHNICS

It is recognized that there can be unforeseen or unique situations which might require on-site judgement differing from these guidelines and such judgement may have to be made in the interest of safety of cast and crew.

1. Prior to the performance of all potentially hazardous work situations or pyrotechnic effects (e.g. working with explosives, explosive devices, flammable or combustible liquids, gas or chemicals on any set) the Production Manager, through the 1st Assistant Director, should give notification to all personnel. The call sheet should also state that explosive or pyrotechnical special effects are to be utilized.

2. Special effects personnel must inform the transportation coordinator of what pyrotechnic materials, if any, their drivers will be required to transport. Vehicles must be placarded where required by federal or provincial laws. All vehicles transporting pyrotechnic materials should have readily available an inventory of those materials being transported or stored.

3. Before any explosive or potentially hazardous sequence is to be performed, a meeting should be called by the Special Effect Coordinator for all personnel involved and they should be thoroughly briefed at a meeting on the site where the explosion sequence is to take place. This meeting should include an "on-site walk-through" or a "dry run" with the Special Effects Coordinator and all the personnel involved in the event. The Special Effects Coordinator should plan and provide acceptable avenues of escape. An understanding of the intended action, possible deviations and authority to abort should be made clear.

4. If, at any time, substantial changes become necessary which affect the safety precautions required, another meeting should be called to confirm everyone's understanding of and agreement to the change(s).

5. Prior to, and after any pyrotechnical effect, the Special Effects Coordinator will remain on set at all times to deal with safety matters.

6. Either the 1st Assistant Director or the Special Effects Coordinator or the onset Special Effects Key, or all three where necessary, shall clearly announce to all persons the location of exits and escape routes. The escape route must provide unobstructed passage to the exterior of the building, structure or workspace.

7. Additionally, all personnel should ensure that there is a clear fire route for emergency and firefighting vehicles at all times.

GUIDELINE NO. 7

8. All personnel involved should check the escape route in order to assure that it is, and will remain, accessible. Any person who is unsure of the designated escape route should check with the 1st Assistant Director and learn the escape route before entering the work area.

9. Emergency procedures and contingency plans, including the authority to abort and appropriate signs and signals, shall be specified prior to engaging in any pyrotechnic special effects work.

10. Only persons and crew necessary for the purpose of filming should be in the explosives area. The 1st Assistant Director, Special Effects Coordinator, and/or crew Health & Safety Representative should require that before a special effect is performed, all other personnel are safely cleared away from the explosives area.

11. No smoking is permitted in the explosives area. "No Smoking" signs should be posted in all areas of the premises or locations where explosive and/or pyrotechnic devices are stored and handled.

12. After each shoot, no one should go into the explosives area other than the Special Effects Coordinator, until it is deemed safe to do so by the Special Effects Coordinator.

13. No performer should be rigged with any type of explosive charge of any nature unless supervised by a qualified special effects person.

14. No child under the age of sixteen (16) should be close to explosives nor should they be body squibbed.

15. Transportation of explosives and/or pyrotechnic devices shall be governed by the provisions of all applicable federal, provincial and municipal laws, and the proper authorities (to be defined) shall be notified when using explosives on the set.

16. All explosives and explosive devices shall be shunted.

17. Detonation of explosives shall be from a separate DC power.

18. When preparing pyrotechnics, radio transmissions of any kind including mobile phones in the area shall be turned off.

19. Crew or other "off camera" personnel should be safely protected by moving a safe distance away from the pyrotechnic effect. No personnel should be in the vicinity of the effect without ear and eye protection. Consideration should also be given to using shatterproof clear plastic shield (1/4" minimum) and camera blankets (to protect the camera operator, focus puller and other cast and crew).

20. When the special effect involves large flying objects such as a car rolling over or exploding near a camera, consideration should be given to using a camera in a protective box (e.g. Eyemo camera).

21. Special consideration should be given to situations where there is a possibility of a camera operator or focus puller being injured. In this situation camera lock-off should be considered. A lock-off is a camera whose position and lens setting do not change over the duration of the shot.

22. Check with local municipalities to see if there is a requirement for an Emergency Task Force Explosive Disposal Unit (ETF EDU) or a Police Explosive Technician or Police Explosive Technician Assistant (PETA) to be present. The applicable local film and television office may require film companies, as part of their permit, to have explosives and/or pyrotechnics supervised by ETF EDU or PETA Technicians.

23. The Explosives Regulatory Division (ERD) of Natural Resources Canada has developed a certification program for pyrotechnic special effects technicians. For more information contact:

Natural Resources Canada
Explosives Branch
Explosives Regulatory Division
1431 Meriyale Road
Ottawa, Ontario
K1A 0G1
Attention: Rachel Robbins (Fireworks-Pyrotechnics Inspector)
Telephone: 613-948-5172
Fax: 613-948-5195
Email rrobbins@nrcan.gc.ca

24. Intoxicating liquids, narcotics and other controlled substances should not be used by any person handling pyrotechnic special effects at any time during their transportation, set-up, firing or removal. (An exception may be made for prescription drugs that do not impair the motor functions and judgment of the user.)

25. Special Effects Technicians should be readily identified by wearing or displaying an issued ERD pyrotechnic card.

PYROTECHNICS IN STUDIO SETTING

26. Ensure all fire exits are kept clear and free of obstructions.

27. Ensure all hand held fire appliances are kept clear and free of obstructions.

28. Make sure all personnel know where the closest exit is within the studio should an emergency arise.

29. If personnel have to leave the studio in an emergency evacuation, they should do so in an orderly manner.

30. Personnel should pay attention to any directives given by the SPFX Supervisor, the 1st Assistant Director, the on-set ETF EDU Officer or a Fire Representative.

31. Any questions regarding special effects fires should be directed to the special effects department.

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OPEN FLAMES

This guideline is intended to provide recommendations on the safe use of open flames on production sets.

1. The Special Effects Coordinator and the Stunt Coordinator should be consulted regarding all necessary fire prevention, medical, and safety precautions which should be undertaken on a set where open flames are involved. A special note should be made in the safety section of all call sheets when fire stunts are to be performed or when the burn is to occur at a safe distance from the actual filming location.

2. If a substantial fire effect may damage property, the landlord and appropriate fire and government authorities should be contacted prior to the use of open flames, whether at the studio or on location.

3. When torches, candles, fireplaces or other open flames are used on set, such use should be under controlled conditions with due caring for the safety of all involved.

4. The Departmental supervisor responsible for the open flame effect should designate competent personnel for the handling, placement, safe use and securing daily of any open flame devices. See also requirements for storage of cylinders for compressed gas in sections 42-45 of O. Reg. 213/91 and section 49 of Reg. 851.

5. All stationary open flame fixtures should be secured.

6. Flammables and combustibles shall be stored a safe distance from open flames. Where necessary, and in accordance with WHMIS requirements, materials shall be stored in approved and labeled containers.

7. All connected fuel lines, fixtures and appliances, for the use of open flames, shall be approved by the Technical Standards and Safety Authority (TSSA) as required by section 4(1) of O. Reg. 212/01 (Gaseous Fuels) made under Technical Standards and Safety Act, 2000.

8. All cast and crew, including stunt performers, should be notified in advance of their involvement with open flames and briefed on any action and safety issues prior to shoot day.

9. When fire is used, a fire extinguisher must be in close proximity and personnel trained in its use should be identified and standing by. Additional requirements for fire extinguishers are found in section 123 of Reg. 851 and sections 52-55 of O. Reg. 213/91.

GUIDELINE NO. 8

10. Appropriate fire authorities should be contacted prior to the use of open flames, whether at the studio or on location.

11. The person responsible for flame ignition should ensure a clear line of sight of the flame and/or maintain direct communication with a designated observer.

12. When flammables and combustibles are used on set to act as a fire accelerant, continual ventilation should be initiated until ignition or clean up and storage is completed. Additionally, such materials should always be kept in approved equipment and/or containers.

13. Any stunt, SPFX and props personnel directly involved with interior fire sets should wear protective fire equipment (i.e. nomex suits). Sections 25 and 26 of OHSA set out duties of employers and supervisors respectively with regard to the use of personal protective equipment by workers. Section 28 of OHSA sets out duties of workers.

    a) All wardrobe and wigs to be used in any type of burn should be treated with an appropriate fire retardant or should be of a high cotton or wool fabric content due to the melting properties of many synthetic materials.

    b) Appropriate fire retardant covers should be provided for the camera, where applicable.

    c) Water gel should be used at all times on all exposed areas of skin, including the Performers' hair if it is uncovered.

    d) A Performer should have the option of wearing a natural hair wig.

14. If the stunt is a "partial burn" there should be no fewer than two (2) safety people, each equipped with proper fire extinguishers.

    NOTE: A "partial burn" is defined as: "When a Stunt Performer carries an amount of fire limited to a restricted area of the body (i.e., an arm, a leg or a portion of the torso) and does not inhibit the sight or breathing of the Stunt Performer".

15. If the stunt is a "full burn", there should be no fewer than three (3) safety people, each equipped with proper fire extinguishers.

    NOTE: A "full burn" is defined as: "When a substantial part of the body is on fire or when the flames reach or interact with the head area and could limit the sight or breathing of the Stunt Performer. Any fire gags (stunts involving fire) where a breathing apparatus or eye protection is required".

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SMOKE AND FOG

DEFINITIONS (provided for convenience)

Both smoke and fog are suspensions of solid particles or liquid droplets in air. Each may be accompanied by one or more gases.

SMOKE

For the purposes of this document the term smoke will refer to a suspension that rises, expanding indefinitely.

FOG

For the purposes of this document the term fog will refer to a suspension that falls, being heavier than air. This includes smoke that has been chilled.

MSDS

Supplier Material Safety Data Sheet that provides comprehensive information on a WHMIS controlled product, relating to its handling, storage, use and known health effects.

REGULATORY REQUIREMENTS FOR CHEMICALS

Regulation 833, R.R.O. 1990, entitled Control of Exposure to Biological or Chemical Agents and Regulation 860, R.R.O. 1990, Workplace Hazardous Materials Information System (WHMIS) apply to all the chemicals used for fog and smoke such as glycols, dry ice, liquid nitrogen, etc. Regulation 833 prescribes limits for exposure of workers to biological or chemical agents. Exposure is to be controlled using engineering controls, work practices, hygiene facilities and practices, and in certain situations personal protective equipment. WHMIS is designed to give employers and workers information about hazardous materials used in the workplace. Under WHMIS, there are three ways in which information on hazardous materials is to be provided:

- labels on the container of hazardous materials (sections 8 – 16);
- material safety data sheets to supplement the label with detailed hazard and precautionary information (sections17 – 25); and
- worker education (sections 6 and 7).

GUIDELINE NO.9

GENERAL GUIDELINES

1. When creating smoke on any set, the Producer(s) should use the lowest concentration needed to achieve the desired effect.

2. Only fog/smoke products that have a Supplier Material Safety Data Sheet (MSDS) that meet WHMIS requirements should be used.

3. Some products use proprietary formulas, concealing the identity and proportion of ingredients. Products whose MSDSs clearly identify the chemical ingredients with precautions in safe handling (subject to requirements of the Regulation) should be preferred.

4. Fog/smoke products should be used exactly as the manufacturer directs and should not be altered in any way such as by adding dyes, fragrances or additional chemicals. Coloured fog can be achieved with coloured light.

5. Fog/smoke generating machines should be used and maintained in good condition as required by the Occupational Health and Safety Act.

6. Fog/smoke generating machines or other sources should be located to minimize exposure to the concentrated smoke or fog as it is created.

7. Fog/smoke outlets should be located well out of traffic areas. Residue can be tracked well beyond the area of use and may create a slipping hazard (see Regulation 851, Industrial Establishments, section 11(a)).

8. When smoke is created on an interior set, the stage should be periodically ventilated or exhausted, vertically and laterally. All personnel and animals should be given a break away from the stage at appropriate intervals.

9. The location's regular first aid and emergency plan should include procedures for severe reactions to fog and smoke.

10. Prior to workers' engagement for any production with fog/smoke effects, the workers should be told the type of chemical fog/smoke product that will be used. The MSDS on the fog/smoke shall be available to workers on request prior to engagement and workers shall be given instruction/training on safe handling and use of the chemicals as per Regulation 860.

11. High-risk individuals should not be exposed to smoke and fog. This group includes, but is not limited to, children, people with severe lung problems and/or asthma, and pregnant women.

12. When creating smoke on interior sets, the Producer(s) shall provide, and require the use of respirators, approved by the National Institute for Occupational Safety and Health (NIOSH), for all exposed workers, when circumstances warrant. Respirators shall be appropriate as to provide protection from all possible contaminants produced (i.e. dusts, mists, gases and vapours). Check the Material Safety Data Sheet (MSDS) to determine the required type of respirator (as per section 7.2(2) of Regulation 833).

13. All persons wearing respirators shall be fit tested (to ensure that the respirator forms an effective seal with the face) and receive training to understand how to use the respirator properly.

14. Persons should not be assigned to tasks requiring use of respirators unless they are physically able to perform the work and use the equipment. Workers required to wear respirators who experience breathing difficulty while using respirators should be referred to a physician for evaluation.

15. Exposure to fog and smoke during strenuous physical activity should be minimized.

16. Individuals who experience adverse reactions to fog or smoke exposure should be immediately removed to a well-ventilated area and the location's first aid or emergency providers should be notified.

17. If an adverse reaction occurs, the occurrence should be investigated by the departmental supervisor, stage manager and/or shop steward.

18. A written report of the findings should be made to the Joint Health and Safety Committee or Health and Safety Representative, and appropriate labour and management associations. The individual experiencing the reaction should be given a copy of this report.

    Note: Under the Personal Health Information Protection Act, 2004 a person has the right to consent to how personal health information will be collected, used and shared.

19. When smoke or fog are created and used on any interior set, all non-essential personnel should be removed from the area. All dressing rooms and/or tutoring areas should be located separately or such areas, if nearby, should be vacated.

20. When utilizing smoke in an interior set or location, the Producer(s) shall provide a means to exhaust, or ventilate the set as required by section 127 of Reg. 851.

21. When creating a fire on an exterior location, the Producer(s) shall exercise all reasonable precautions (as per 25(2)(h) of OHSA) to prevent fire and smoke inhalation and should make respirators available upon request. Such respirators shall be appropriate to deal with exterior smoke (as per section 7.2 (2) of Regulation 833).

22. When smoke is scheduled to be created on any set, prior notification as to use and type should be given to all personnel. Whenever possible, the call sheet should state that smoke is to be used and the person responsible for providing respirators shall be designated.

23. The use of any substances known to be carcinogenic should be banned (i.e. fuller's earth, benzene smokes, and burning rubber tires).

SUBSTANCES THAT SHOULD NOT BE USED:

a) Known human carcinogens, including any particulates of combustion and tobacco smoke (except where such smoke results from the smoking of tobacco by an actor in a scene);

b) Fumed and hydrolyzed chlorides;

c) Ethylene glycol, Diethylene glycol, Tripropylene glycol and Triethylene glycol;

d) Mineral oils;

e) Aliphatic and aromatic hydrocarbons including petroleum distillates; and

f) Hexachloroethane and Cyclohexylamine.

SUBSTANCES THAT MAY BE USED

a) Propylene glycol, Butylene glycol and Polyethylene glycol other than Triethylene glycol. Other glycol products should not be used (see above);

b) Glycerine products [Caution: Glycerine and the listed glycol products should not be heated beyond the minimum temperature necessary to aerosolize the fluid. In no event should glycerine or glycol be heated above their decomposition temperature 290°C (554°F)]; and

c) Cryogenic gases (i.e. carbon dioxide, liquid nitrogen) may be used but care must be exercised to avoid depleting oxygen levels, especially enclosed areas. Use care to avoid adverse effects of cooled air on exposed persons.

Material Safety Data Sheets (MSDS) are to be acquired and consulted by workers prior to and during the use of these products. All MSDS for any of the above materials are to be available on set, and to the cast and crew, while said products are in use (as per section 7 of Regulation 860).

GUIDELINE NO. 10

PROPANE USE

Propane is an economical, easily obtainable, cost-effective fuel. It may be used to provide heat, light or generate electricity.

However, propane is also an extremely flammable fuel with physical characteristics which, if the fuel or its equipment is misused, can result in deadly consequences.

PROPANE USED TO PREPARE FOOD OR PROVIDE REFRIGERATION

1. Portable barbeques may not be used indoors or in tents.

   (As per Section 4.2.1 CAN/CSA-B149.2-05 Propane Storage and Handling Code adopted under O. Reg. 223/01 made under the Technical Standards and Safety Act, 2000)

2. Commercial grills approved for use indoors may be used indoors, but the propane cylinders must be installed outdoors and the propane piped in to the appliance.

   (Cylinder use as per Section 6.5.1.2 CAN/CSA-B149.2-05 Propane Storage and Handling Code adopted under O. Reg. 223/01 made under the Technical Standards and Safety Act, 2000)

3. Small buffet heaters or self-contained cooking units which use small 1 lb cylinders may be used indoors, as long as they are certified for that use and have proper ventilation. No more than three (3) spare cylinders may be stored inside.

   (Cylinder storage limitation as per Section 6.5.1.4 CAN/CSA-B149.2-05 Propane Storage and Handling Code adopted under O. Reg. 223/01 made under the Technical Standards and Safety Act, 2000)

4. Propane refrigerators may be used as long as the propane supply is installed outside, and the exhaust is vented outdoors.

   (As per Section 4.1.3 CAN/CSA-B149.2-05 Propane Storage and Handling Code adopted under O. Reg. 223/01 made under the Technical Standards and Safety Act, 2000)

PROPANE USED TO PROVIDE LIGHT AND/OR HEAT

1. Only persons in possession of a current Record of Training are allowed to install, connect, refuel and operate propane appliances (as per section 6 of O. Reg. 211/01 (Propane Storage and Handling) made under Technical Standards and Safety Act, 2000).

2. Supplemental Heating Appliances bearing certification as CONSTRUCTION HEATERS must not be installed inside any work or gathering area where members of the production staff or visitors may congregate.

   (As per Section 4.2.1 CAN/CSA-B149.2-05 Propane Storage and Handling Code adopted under O. Reg. 223/01 made under the Technical Standards and Safety Act, 2000)

3. Open flame direct fired units may not be used to provide heat where people work or gather.

   (As per Section 4.2.1 CAN/CSA-B149.2-05 Propane Storage and Handling Code adopted under O. Reg. 223/01 made under the Technical Standards and Safety Act, 2000)

4. Propane fuelled radiant heaters may be used indoors, as long as the propane cylinders are installed outside, the fuel properly piped in to the appliance, and carbon monoxide (CO) Monitors installed. The user must ensure that the CO monitors are capable of providing a warning if the carbon monoxide level exceeds 25 ppm. If the CO levels exceed 25 ppm the user must take immediate action to protect workers and the public from further exposure.

   (As per Section 4.2.1 CAN/CSA-B149.2-05 Propane Storage and Handling Code adopted under O. Reg. 223/01 made under the Technical Standards and Safety Act, 2000. The use of Carbon Monoxide Monitors set to alarm at 25ppm is based on the worker exposure limit in Reg. 833.)

5. Indirect fired, forced air heaters may be used, as long as the propane source is installed outside and properly piped in to the appliance. The appliance must be vented to the outside and the operator must ensure that the product of combustion fumes is not re-circulated into the building or tent.

   (As per Section 4.1.3 CAN/CSA-B149.2-05 Propane Storage and Handling Code adopted under O. Reg. 223/01 made under the Technical Standards and Safety Act, 2000)

6. Propane fuelled lighting units may be used indoors as long as the product of combustion fumes is vented to the outdoors (as per section 49(5) of O. Reg. 213/91 Construction Projects made under OHSA).

INSTALLATION REQUIREMENTS

The installation of equipment that uses propane shall be in accordance with the Natural Gas and Propane Installation Code, B149.1-05 as adopted under O. Reg. 211/01 made under Technical Standards and Safety Act, 2000. Such equipment shall be installed by trained certificate holders with sufficient clearances from combustibles, combustion and ventilation air and with products of combustion being vented to the outdoors. The

equipment shall be installed in accordance with its installation instructions and the Code. This means that where an installation requires that the fuel be piped to the appliance, or that the product of combustion fumes be vented to the outdoors, the installation shall be done by a qualified technician.

(Clarification of regulation and code requirements for compliance to installation requirements, installer certification, and quality of work performed)

PROPANE USED IN SPECIAL EFFECTS

1. A cylinder of up to 100 lb capacity may be used for special effect appliances on production sites not open to the public.

   (Joint Industry/TSSA Fuels Safety Program established limit regarding the quantity of propane that can be on a set to provide an effect. Based on perceived need and accepted safety parameters.)

2. Special effect appliances utilizing propane must be properly constructed using certified components, and must be under the control and close supervision of a Certified Technician when in use.

PROPANE STORAGE

1. Propane cylinders not in use must be stored outdoors in secure, well ventilated storage. Must be in compliance with the *Propane Storage and Handling Code* and Ontario Regulations for Propane Storage and Handling

   (As per Section 6.5.2.5 CAN/CSA-B149.2-05 Propane Storage and Handling Code adopted under O. Reg. 223/01 made under the Technical Standards and Safety Act, 2000)

2. Propane tanks must be transported in an open vehicle (i.e. pick up truck) and must not be transported in an enclosed vehicle.

   (As per Section 6.6 CAN/CSA-B149.2-05 Propane Storage and Handling Code adopted under O. Reg. 223/01 made under the Technical Standards and Safety Act, 2000)

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GASOLINE OPERATED EQUIPMENT

1. All gasoline engines produce carbon monoxide in higher concentrations than propane powered engines. Use of propane or natural gas powered equipment should be considered in place of gasoline powered equipment where possible.

2. Carbon monoxide can rapidly build up in an indoor area, and individuals can be overcome without even realizing they are being exposed. Symptoms of exposure include confusion, headache, dizziness, fatigue and weakness. It is important to provide education and training regarding the signs and symptoms of overexposure to personnel who may potentially be exposed.

3. Good equipment maintenance including engine tuning, is the most important measure for controlling the rate of CO emission. A well tuned engine can produce CO concentrations as much as 1000 times lower than a poorly tuned engine. Effective engine tuning requires a measurement of the CO in the exhaust stream. If the equipment is leased, engine tuning should be part of the lease agreement.

4. Adequate ventilation shall be provided if internal combustion engines are to be operated inside of buildings or enclosed structures (as per section 127 of Reg. 851). In these situations, monitoring of CO concentrations should be carried out in the exposure area so that the provision of adequate ventilation can be assured. Measurements should be made through the use of calibrated equipment by a person trained in the proper use of the equipment who understands its limitations. A direct-reading CO meter that can warn against potential exposure above current occupational exposure limits may suffice for this purpose. Current occupational exposure limits for CO are 25 ppm as an 8-hour time-weighted average limit and 100 ppm as a 15-minute short term exposure limit as specified in Regulation 833.

5. Exhaust gases shall be adequately converted to ensure the health and safety of workers (as per section 127 of Reg. 851).

6. Such equipment should not be parked near exits, as this poses a fire safety hazard.

7. All equipment should be equipped with an emergency stop control.

8. Any extinguishing system shall be appropriate for the task, equipment or situation (as per section 123 of Reg. 851).

9. When an internal combustion engine is operating, a qualified worker should check the operation of the engine as often as deemed necessary.

10. Gasoline engines shall be refueled outdoors, with the engine stopped, and with no source of ignition within three metres of the dispensing point (as per section 61 of Reg. 851).

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ELECTRICAL SAFETY

This is intended only to highlight certain general principles contained in Appendix B - Electrical Safety. It is necessary for the entire Appendix to be read for a clear understanding of electrical safety as applied to film and television production.

1. The Gaffer/Lighting Director and/or the Generator Operator are in charge of all temporary power distribution systems for film or video production. They should be consulted prior to the use of any electrical system.
2. Under no circumstances should anyone, other than a trained technician or the designer of a fixture, attempt an "on the spot" repair to electrical equipment.
3. Stay clear of lighting fixtures and lamps.
4. Care should be taken not to walk on, or drive over, electrical cables.
5. The Electrical Department should have an Emergency Lighting System available to adequately light an escape route in the event of a blackout.
6. During an extreme electrical storm the Generator Operator may determine whether it is necessary to power down.

Section 182 of O. Reg. 213/91 prescribes the qualifications required to do electrical work during construction activities and recognizes training programs developed by MTCU such as Entertainment Industry Power Technician.

An **Entertainment Industry Power Technician** evaluates job requirements, plans, builds, installs, maintains and disassembles power distribution (main and sub-distribution), implements temporary power supplies, installs, controls and disassembles lighting, manages portable power supplies and maintains batteries. These individuals should have a mechanical aptitude and "hands on" skills and should be able to use many different types of hand and power and testing equipment. Such work may be performed on temporary installations up to, but not including, hardware connection to the power system of permanent buildings.

For more information on the "Entertainment Industry Power Technician Trade, 269E" please contact:
Ministry of Training Colleges and Universities (MTCU)
General Inquiries: 1-800-387-5656
www.edu.gov.on.ca

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GUIDELINE NO.13

TRANSPORTATION

This guideline is intended to be a reference for personnel using production vehicles.

1. All equipment and vehicles used in transporting equipment and/or personnel shall comply with all Transport Canada and Ontario Ministry of Transportation requirements. All equipment and vehicles must display a current Safety Inspection sticker that is acceptable to the Ontario Ministry of Transportation. In addition, the equipment and vehicles shall be maintained in good condition (as per section 25(1)(b) of OHSA).

2. All drivers of equipment and vehicles shall be experienced, qualified and licensed to drive such equipment and vehicles, and must hold a valid/current driver's license.

3. Prior to operation, all drivers should perform a circle check of the vehicle and address any concerns immediately, and should not operate the vehicle until safety concerns are addressed.

4. Where it is necessary to transport explosives, chemicals or hazardous materials, the vehicle must display any Hazardous Material symbols required by Transport Canada under the Transportation of Dangerous Goods Act and Regulations and must comply with all requirements.

5. Where it is necessary to transport explosives, chemicals or hazardous materials, the driver/operator must hold a current Industry Transportation of Dangerous Goods Certificate and have taken WHMIS training. In addition, section 25(2)(a) of OHSA requires employers to provide information, instruction and supervision to a worker to protect the health and safety of the worker.

6. All towed vehicles and equipment should have hitches that meet the regulated standards as set out in the weight regulations of the Ministry of Transportation, and should be inspected and approved by the Key Grip or other qualified personnel.

7. Any equipment not essential to the sequence should not be transported on or in the camera car.

8. Rear Towing - no person should be on the tow-bar or the exterior of the towed vehicle, except a Stunt person who is qualified to deal with the danger and risk involved. This does not include any towed camera platform designed for such a purpose.

9. Extra consideration should be given to the safety of personnel working on such vehicles during adverse conditions (e.g. bad weather, stunts and use of explosives).

10. The vehicle should only carry as many people as seat belts, and every person travelling in a motor vehicle should wear their seatbelt.

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GUIDELINE NO. 14

SEAT BELTS, HARNESSES, ROLL CAGES AND AIR BAGS IN VEHICLES

This guideline should be referenced when any automotive vehicle is used in an action sequence.

1. All vehicles should be equipped with seat belts or harnesses, or both where necessary.

2. Any vehicle involved in a collision of any kind (i.e., sideswipes, T-bones, head-ons, all roll-overs and all jumps) should be equipped with 4 or 5 point harnesses or roll cages, as necessary, for both driver and passenger, made by a professional roll cage manufacturer, or certified by a professional engineer.

3. All parties should provide for the safety of all personnel in the vicinity of moving vehicles.

4. This guideline should be used in conjunction with the Stunt Plan, when applicable. The vehicle should be equipped with seat belts or harnesses, or both where necessary, except where dictated by script requirements. It is recognized that in the case of exceptional circumstances (i.e. vintage or antique vehicles) it may not be feasible or practical to install seat belts and/or harnesses. Seat belt regulations only apply to vehicles manufactured after 1971.

5. No person should modify a seat belt or vehicle in any way that reduces its restraining action.

6. Consideration of possible deployment of air bags must be given when cast and crew are involved in traveling sequences. For safe distances between passengers and air bags, Transport Canada recommendations should be referred to and adhered to. In addition, section 28(2) of OHSA requires that a worker shall not make ineffective any protective device or operate any equipment in a manner that may endanger himself, herself or any other worker.

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MOTORCYCLES

This guideline applies to motorcycles used as picture vehicles or camera vehicles. When applicable for stunts, this guideline should also be read in conjunction with the Stunt Plan, Guideline #5.

1. Extreme caution should be exercised at all times when motorcycles are being used. Only required personnel should be in the vicinity.

2. The operator shall hold a current, valid motorcycle license as required by the Ontario Highway Traffic Act.

3. The motorcycle stunt person should be experienced in and familiar with the techniques needed to safely perform the planned stunt.

4. Protective equipment, such as a helmet, gloves and other clothing should be worn at all times except when dictated by script requirements. Helmets should be CSA approved or equivalent. Where there are special wardrobe requirements every precaution should be taken in wearing protective clothing under the costume.

5. Ample time and discussion should be given during pre-production, between all concerned parties, as to what type of motorcycle will be needed to safely perform the required sequence. The specific motorcycle type should meet the needs of a specific motorcycle stunt.

6. Before any stunt is to be performed, a meeting should be called for all personnel involved and they should be thoroughly briefed at a meeting on the site where the sequence is to take place. This meeting should include:

   a) an "on-site walk-through" or a "dry run" with the Stunt Coordinator and all personnel involved in the event;

   b) the Stunt Coordinator should plan and explain acceptable avenues of escape to personnel involved in the event; and

   c) an understanding of the intended action, possible deviations and authority to abort should be made clear

7. If any "on the day" deviations of a planned stunt become necessary, another meeting should again be called for all personnel involved in the hazardous procedure to confirm everyone's understanding of, and agreement to, the change(s).

8. Motorcycles, ramps and other equipment should be examined prior to use by the Stunt Coordinator and the motorcycle operator to determine that they are in safe operating condition.

9. The sequence to be photographed, including ramp jumps, "lay downs", "end-overs" and other potential hazards, should be clearly set forth and discussed by all persons involved.

10. Medical providers should be present at all rehearsals and all performances during which planned potentially hazardous motorcycle stunts are performed, in order to administer medical assistance on an emergency basis.

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RAILWAYS AND RAILWAY CROSSINGS

This guideline should be referred to when working on-board trains, in railway yards, or in the vicinity of railway equipment.

In Canada, most railway companies typically own the property on or around the rail lines. Their safety rules and policies should be consulted and prevail if in conflict with this guideline.

GENERAL SAFETY RULES

1. Remain alert and aware of your surroundings at all times. Trains and railway yards can present hazardous situations with which you are not familiar.

2. Know the rules listed below. Railway personnel are familiar with these rules and may assume that all personnel in the area are also familiar with them.

3. Do not attempt to cross in front of locomotives. Locomotives and railway cars require long distances to stop and have blind spots where they cannot see pedestrians or vehicles.

WALKING IN A RAILWAY YARD

1. Listen for approaching engines or railway cars. Walk at a safe distance from the side of the tracks. Avoid walking between the rails or on the railway ties. Pay attention to footing. If it is necessary to turn your head or look backward, stop and look before proceeding. Rail cars can roll easily and quietly if left unsecured. Never rely on your hearing alone.

2. Expect the unexpected. Engines, railway cars or other equipment may move without warning on any track in either direction.

3. DO NOT RELY ON OTHERS TO WARN YOU of approaching engines, railway cars or other equipment. Even if personnel have been assigned to provide warning, stay alert. You may not hear or see the warning.

4. Maintain a safe distance from passing engines, railway cars or other equipment to avoid being struck by projecting or falling objects.

5. Do not sit, stand, step, walk or place coins or other objects on the rails, switches, guard rails or other parts of the track structure.

6. After looking in both directions to be sure there are no approaching engines or railway cars, cross tracks immediately.

7. Take extra precautions if it is raining, snowing or if there are icy conditions.

8. Snow may conceal trip hazards. Avoid walking or working under icicles. Keep all steps clear of ice, snow and other slippery substances.

9. Stand clear of all tracks when trains are approaching or passing in either direction. Do not stand on one track while trains are passing on other tracks.

WORKING IN A RAILWAY YARD

1. Be aware of the surface on which you are walking or working.

2. Stand still and clear of the track when referring to paperwork or using portable communications devices.

3. When walking from, behind or out of an engine, railway car, building or other structure look in both directions before approaching any railway track.

4. Listen for the movement of engines, railway cars or other equipment.

RIDING EQUIPMENT

1. Restrict riding on equipment to essential personnel whose duties require riding or who are properly authorized. Riders should ride only in spaces provided for that purpose.

2. Restrict personnel from riding on the side of the car or engine. Observe that no one is doing so before passing structures and other engines or railway cars. Clearances are rarely sufficient for both the rider and the rail car.

3. Remain alert for conditions that can cause abrupt changes in speed. Examples include: train braking, changes in grade, wet or icy tracks, and entering or leaving a rail yard or train station.

4. Protect yourself from abrupt changes in speed by:

   a) Remaining seated as much as possible. Place both feet on a footrest or firmly on the floor at the base of a wall or other stable structure in front of you.

   b) If standing, stand with feet a shoulder's width apart, one foot slightly ahead of the other. Use your hands to brace against a wall or hold on to a grab rail.

   c) If walking, have a firm grip on grab rails, bulkhead edges or an overhead grab rail. In the event of an abrupt change, halt until it ceases.

WORKING ON OR AROUND RAILWAY EQUIPMENT

1. Remain alert for the unexpected movement of equipment.

2. Observe the condition of equipment before using it. Look for loose, bent or missing stirrups, ladder rungs and brake platforms.

3. Use side ladder and face equipment as you ascend or descend equipment. Be alert for unexpected movement and observe for obstructions before ascending or descending.

4. Dismount or mount equipment only when it is in a stopped position.

5. Cross over standing equipment by using engines or railway cars that are equipped with end platforms and handrails. Not all cars are so equipped. Never place any part of the body on or between the coupler and the end sill of the railway car.

6. Restrict crossing between freight cars, while they are moving.

7. Cross between passenger cars by holding onto railings and grab bars. Remain aware of walking surface conditions.

8. Cross through equipment only when authorized to do so. This to be done only when the selected car is equipped with a crossover platform and hand holds.

9. DO NOT CRAWL UNDER ANY RAILWAY CAR, including cars which are standing still, unless authorized to do so by an authority designated by the railway. At any time members of the cast or crew must work under any railway car, a person trained in railway signals should act as a spotter. A flag or similar signaling device should be displayed so as to be clearly visible to the train operator while work under any railway car is being performed. The car or string of cars should be properly secured with an appropriate number of hand brakes.

10. Allow sufficient clearance in front of, in back of, and to the side when walking around railway equipment. Such equipment may move without warning.

11. Subject to roadway conditions, pay duty police lock off may be required for traffic control.

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GUIDELINE NO. 17

CAMERA CARS

1. An Insert Camera Car shall be a vehicle that is specifically engineered for the mounting of cameras and other equipment for the purpose of photography of, or in, a stationary or moving vehicle. Only such vehicles should used for this purpose. The use of any other vehicle for this purpose is not advised, nor should it be considered grounds for not following these guidelines.

   a) The person in charge of such a vehicle shall be known as "The Camera Car Operator".

   b) The camera car should have a circle check completed before and after use on a daily basis by qualified experienced personnel. Items such as brakes, tires, electrical system and towing equipment should be included in this check. A record of such checks should be kept and signed by the operator.

2. Any rigging should be done in a safe manner by qualified experienced personnel. According to O. Reg. 213/91, s. 26.1(4), written rescue procedures must be in place before fall arrest equipment is used.

3. A camera car used for night filming should be provided with two portable tail lights which are affixed to the towed vehicle to provide rear lighting.

4. The maximum number of people, including crew and performers, on or in such vehicles should not exceed seven (7), unless the design of the vehicle clearly allows it.

   a) A placard should be clearly visible on the rear of the vehicle stating the maximum speed, weight capacity and occupancy allowed.

   b) In order to ensure clear lines of sight to the operator, only he or she should be in the cab while the vehicle is in motion.

   c) Only person(s) directly associated with the shot at hand should be allowed on the vehicle while in motion.

5. Only equipment essential to the sequence at hand should be transported on or in the camera car.

6. Rear Towing – no person should be on the tow-bar or the exterior of the towed vehicle, except a qualified Stunt person who is qualified to deal with the danger and risk involved. This does not include any towed camera platform designed for such a purpose.

7. Extra caution should be used when working on vehicles during adverse conditions (e.g., bad weather, stunts and use of explosives).

8. Any electrical circuits shall be certified by Canadian Standards Association (CSA) or Electrical Safety Authority (ESA), required by section 40 of Reg. 851. In addition, they shall be designed for outside use and have a ground fault interrupter device attached (as per section 44.1 of Reg. 851).

COMMUNICATIONS

9. Any special communications used regarding the operation of a camera car, such as sound signals, should be mentioned at a meeting of any personnel involved prior to any use of the vehicle.

10. Only one person should be in contact with the operator through a separate open channel. In the event of radio silence being imposed another set of signals should be used including abort or emergency stop.

11. A "dry run" or "walk-through" of any action should be conducted prior to rehearsal or filming with all personnel involved present. An understanding of any intended action, possible deviations and authority to abort should be made clear to all concerned.

12. In the interests of uniformity throughout the industry, the following sound signals should be used by the operator of the car:

    - Prior to moving forward – sound two short blasts on the horn on the Car.
    - Prior to backing up – sound three short blasts.
    - Emergency stop – one long blast.

    NOTE: At night when shooting in residential areas, alternative signals could be used.

13. A copy of these guidelines should be provided to the operator at a safety meeting and should also be kept in the glove compartment of any camera car.

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GUIDELINE NO. 18

CAMERA CARS: PROCESS TRAILERS AND TOWED VEHICLES

This guideline applies to any towed vehicle or trailer specifically designed to carry personnel, equipment or other vehicles. Process trailers are towed by a camera car or heavier equipment designed to carry or pull a load of the size required for the shot.

1. Any vehicle or camera platform towed by a camera car should be considered to be part of the camera car and subject to all requirements outlined under the Camera Car Guideline #17.

2. Only essential persons required for the shot should be on the towed vehicle. All other persons should be on the camera car. Towing combinations does not increase the number of allowable persons indicated in the Camera Car Guideline #17.

3. All equipment, including but not limited to specialized equipment such as camera dollies, boom arms, lighting fixtures, grip equipment or special effects equipment should be secured to the vehicle or have a safety strap.

4. Rear Towing - no person should be on the tow-bar or the exterior of the towed vehicle, except a stunt person who is a qualified to deal with the danger and risk involved. This does not include any towed camera platform designed for such a purpose.

5. Extra caution should be used when working on vehicles during adverse conditions (e.g. bad weather, stunts, and use of explosives).

6. Any electrical circuits shall be certified by Canadian Standards Association (CSA) or Electrical Safety Authority (ESA), required by section 40 of Reg. 851. In addition, they shall be designed for outside use and have a ground fault interrupter device attached (as per section 44.1 of Reg. 851).

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CAMERA CARS: CAMERA BOOM VEHICLES

All camera boom vehicles should follow all the requirements in the Camera Car Guideline #17.

1. The speed of the camera boom vehicle should never exceed the safe operating speed set forth by the individual manufacturer or at a speed which may endanger the safe handling of the vehicle or safe operation of the boom arm as determined by the driver/operator.

2. Any person riding in the boom arm shall wear an approved seat belt at all times (as required by section 148(e) of O. Reg. 213/91).

3. Always rehearse shots under controlled conditions to ascertain safety in movement, not only of the vehicle but of the boom arm as well.

4. Camera personnel should only mount and dismount when given permission by the operator in control of the camera arm. Arm balance should always be maintained.

5. Always use wheel chocks to prevent crane movement on a sloped surface, ratchet lock brakes for added temporary security and never trust hydraulic brakes for permanent hold.

6. Maximum payload on boom arm nose should never be more than the load specified by the manufacturer.

7. Payloads should be decreased in proportion to the length of the extensions.

8. On any extension configuration, check with the manufacturer or operator's manual for allowable load.

9. The camera boom vehicle and boom arm should be checked before use and after use by a competent person who is a qualified experienced driver/operator. That operator must be present during any use of the vehicle or boom arm. The driver operator should have the authority to make any adjustments that may affect the safe operation of the vehicle and or boom arm.

10. When a boom arm is being used, special consideration should be given to the safety of personnel working on vehicles during adverse conditions (e.g. bad weather, stunts and use of explosives).

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GUIDELINE NO. 20

CAMERA CRANES

1. The Director of Photography and Key Grip should be consulted as to the adequacy of any specific equipment to be used for a particular sequence or shot given the prevailing conditions.
2. No fewer than two people should be separately designated as crew for any crane.
3. Equipment and support surfaces should only be prepared for use under the control of a Grip experienced in its use, and who has been designated by the Key Grip. Only this person should give movement orders thereafter.

   a) Under no circumstances should any person or equipment be added to, or removed from, a crane without the permission of the Grip in charge.

   b) A crane should not be left unattended while being prepared for use or while in use.

4. The following precautions should always be taken when using a crane:

   a) When receiving a crane on set, check the crane's log (when it was last inspected or x-rayed, etc.).

   b) Incomplete or damaged equipment should never be used.

   c) No crane shall be used closer than the following distances from power lines as per section 188 of O. Reg. 213/91:

      - 750-150,000 volts - 3 metres (10 feet)
      - 150,000-250,000 volts - 4.5 metres (15 feet)
      - over 250,000 volts - 6 metres (20 feet)

   d) When using a crane close to overhead obstructions or mounted on moving vehicles, ensure that adequate clearance is maintained at all times taking special care with personnel involved in its use.

   e) When using a crane on unstable surfaces, such as sand, a crane should be blocked in a way to prevent collapse if the surface shifts. This also applies to the laying of any supports or track over changing surfaces, such as sand to rock, or over grades (changes in height of the surface).

   f) The crane base and pedestal should always be level and plumb before it is used.

   g) Any riser used to raise a crane should be capable of supporting the weight of the crane and the personnel using it. It should also be adequately braced against collapse, taking the surface conditions into account.

h) Tracking surfaces should be properly laid and constructed in accordance with supplier's/manufacturer's recommendations.

i) The crane arm should never be left unbalanced.

j) If uncoated lead ingots are being used as weights, gloves should be worn by workers before handling them.

5. Clear announcements and warnings of the intended moves and times should be given to all persons likely to be in the vicinity of a moving crane.

   a) No one should pass under either arm of a crane without permission of the Grip in charge.

   b) The Grip in charge should ensure that persons riding the crane use seats and safety belts.

6. The use of a crane should be noted in the safety section of the call sheet. An example is as follows:

   "A camera crane will be used while filming scene # "x". Please keep its working radius clear of people and equipment, and respond to the requests of the Grip in charge".

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GUIDELINE NO. 21

WORKING AT HEIGHTS

INTRODUCTION

This guideline makes reference to the provisions regarding working at heights in the Regulation for Industrial Establishments (Reg. 851) and the Regulation for Construction Projects (O. Reg. 213/91) and also outlines best practices, procedures and equipment for film and television production.

The Regulation for Construction Projects applies during the installation / erection and removal of stages, set, sound systems and lighting systems for film and television production. The Regulation for Industrial Establishments applies while filming is in progress and while moving pre-constructed sets and stages related to an on-going production. In addition, the Regulation for Industrial Establishments applies during the manufacturing of sets in a shop prior to being transported to the venue.

I Risk Assessment

1. A competent person should assess the risks associated with any job task and identify, control or eliminate any fall hazards.

2. The best option for eliminating a fall hazard is a guardrail system. A worker shall be adequately protected by a guardrail system that meets the requirements of the Regulation for Construction Projects or the Regulation for Industrial Establishments.

3. When the fall hazard cannot be eliminated, then the hazard shall be controlled by using a fall protection system in accordance with the Regulation for Construction Projects or the Regulation for Industrial Establishments.

II Hazard Recognition

The Regulation for Industrial Establishments (including sections 13, 14 and 85) applies after the construction/erection of the set/stage has been completed. Section 85 applies where a worker is exposed to the hazard of falling and the surface to which he or she might fall is more than three metres below the position where he or she is situated. Section 13 sets out the situations where guardrails are required and section 14 outlines the specifications of a guardrail.

The Regulation for Construction Projects (including ss. 26.1-26.9) applies to construction projects and including the installation/erection and removal of stages, set, sound systems and lighting systems. The protection in the regulation relating to fall hazards apply where a worker is exposed to any of the following hazards including but not limited to:

- falling from a height of more than 3 metres (approx. 10 feet);
- falling into operating machinery;
- falling into water or another liquid;
- falling into or onto a hazardous substance or object;
- falling though an opening in a work surface.

III Training

1. The Regulation for Construction Projects (ss 26.2(1)) states: "An employer shall ensure that a worker who may use a fall protection system is adequately trained in its use and given adequate oral and written instructions by a competent person." Section 79 of the Regulation for Industrial Establishments requires that workers required to wear protective equipment such as fall protection equipment shall be instructed and trained in the care and use before wearing such equipment.

2. Among other things, employers shall ensure that:
   - training records are kept, including participants' names and training dates; (s 26.2(2)&(3)); and
   - the training records are available to Ministry of Labour inspectors on request. (s. 26.2(4)).

IV Rescue Plan

1. According to the Regulation for Construction Projects (ss 26.1(4)) written rescue procedures must be in place before a fall arrest system or a safety net is used. In addition, a rescue plan should be in place whenever a fall protection system is used. The plan should be posted in a conspicuous place. (For more detailed information, see the section "Rescue Plan" below.)

DEFINITIONS OF TERMS USED IN THIS GUIDELINE

Aerial or elevating work platforms: Hydraulic or electrical controlled devices used to elevate personnel or materials. In the film and television production, these include: scissor lifts, articulated boom lifts, individual personnel lifts, self-propelled lifts, manual "push-around" lifts, elevating rolling work platforms, self-propelled elevating work platforms, boom-type elevating work platforms, and vehicle-mounted aerial devices.

Authorized: Certified by a professional engineer.

GUIDELINE NO. 21

Anchorage: Certified point of attachment for lifelines, lanyards or deceleration devices.

Connector: A self-closing device used to connect various parts of personal fall arrest or work-positioning systems.

Fall protection: A method of minimizing the possibility of falling.

Fall arrest system: An assembly of components joined together so that when the assembly is connected to a fixed support, it is capable of arresting a worker's fall. (ss 1(1) of the Regulation for Construction Projects)

Fall restricting system: A type of fall arrest system that has been designed to a limited a worker's fall to a specified distance. (ss 1(1) of the Regulation for Construction Projects)

Full body harness: A device that can arrest an accidental vertical or near vertical fall of a worker and which can guide and distribute the impact forces of the fall by means of leg and shoulder strap supports and an upper dorsal suspension assembly which, after the arrest, will not by itself permit the release or further lowering of the worker. (ss 1(1) of the Regulation for Construction Projects)

Guardrail system: An assembly of components joined together to provided a barrier to prevent a worker from falling from the edge of a surface. (ss 1(1) of the Regulation for Construction Projects)

Lanyard: Flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.

Lifeline: A flexible line for connection to an anchorage at one end to suspend vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.

Lifts: Aerial or elevating work platforms.

Overclimbing: Climbing above a primary anchor point.

Personal fall arrest system: System used to arrest a worker in a fall from an elevation. It consists of an anchorage, connectors and full-body harness, and may include a lanyard, deceleration device and/or lifeline.

Rope grab: Deceleration device which travels on a lifeline and automatically, by friction, engages the lifeline and locks to arrest the fall of a worker.

Rolling A-Frame Ladders: An A-Frame ladder positively attached to a dolly board. The locking castor wheels are to be outside the profile of the ladder. Fall Arrest should be used if working beyond the ladder profile.

Self-propelled elevating work platforms; Self-propelled platforms; Scissor lifts: A portable work station which is moved along the floor/ground/deck by mechanical means.

Self-retracting lifeline/lanyard: A deceleration device that automatically adjusts its length under mild tension and arrests a fall.

Travel restraint system: An assembly of components capable of restricting a worker's movement on a work surface and preventing the worker from reaching a location from which he or she could fall. (ss 1(1) of the Regulation for Construction Projects)

Work positioning systems: Aerial or elevating work platforms, ladders, boatswain's chairs, and scaffolding.

NOTE: The definitions which have not been taken from the Regulation for Construction Projects are provided for convenience only and should not be interpreted to have legal significance.

FALL PROTECTION

1. A worker shall be adequately protected by a guardrail system. Requirements for guardrails are found in the regulation for construction projects (s.26.1). The regulation for industrial establishment (ss. 13 and 14) contains provisions for permanent guardrails. The regulation for construction projects provides that if it is not reasonably possible to install guardrails, a worker must be adequately protected by at least one of the following methods of fall protection:
    - Safety net
    - Travel Restraint system
    - Fall Arrest System
    - Fall Restricting System

2. The following components of fall arrest, fall restricting, travel restricting, systems and safety net must be designed by a professional engineer in accordance with good engineering practice and meet the requirement of the following with CSA standards (or equivalent):
    - Connecting Components for Personal Fall Arrest Systems CAN/CSA Z259.12-01
    - Safety Belts and Lanyards CAN/CSA/Z259.1-95

- Full Body Harnesses CAN/CSA/Z259.10-M90
- Fall Arresters, Vertical Lifelines and Rails. CAN/CSA-Z259.2.1-98
- Self-Retracting Devices for Personal Fall-Arrest Systems. CAN/CSA-Z259.2.2-98
- Descent Control Devices. CAN/CSA-Z259.2.3-99
- Shock Absorbers for Personal Fall-Arrest Systems. CAN/CSA-Z259.11-M92
- Fall Restrict Equipment for Wood Pole Climbing. CAN/CSA-Z259.14-01

I Passive Systems

1. Guardrails & Handrails: See above.
2. Safety Net: The Regulation for Construction Projects outlines the requirements for safety nets in section 26.8.
3. Orchestra Pit Protection Covers (See Orchestra Pits Guideline)

II Travel Restraint System

Travel restraint is a system which prevents a worker from physically reaching the fall hazard, thereby effectively eliminating the hazard. Key requirements for travel restraint systems can be found in section 26.4 of the Regulation for Construction Projects.

III Fall Arrest System

A Personal Fall Arrest System (PFAS) includes a full body harness, connector, lifeline, and certified anchorage components. Key requirements for fall arrest systems can be found in section 26.6 of the Regulation for Construction Projects and section 85 of the Regulation for Industrial Establishments.

IV Anchorage

For wire rope assemblies, synthetic slings or other components, refer to the manufacturer's installation recommendations.

An anchor point should be independent of the supporting or suspension system of the worker.

Anchorage used for vertical fall arrest should be located directly above the work area.

1. Permanent Anchor Points

   A permanent anchor system used as the fixed support in a fall arrest system, fall- restricting system or travel restraint system must adhere to the Building Code and it must be safe and practical to use as a fixed support (s. 26.7(1) of the Regulation for Construction Projects).

2. Temporary Anchor Points

   If the requirements for a permanent anchor system are not met, the minimum anchorage requirements for the temporary fixed support are outlined in the Regulation for Construction Projects (s. 26.7(2)) for:

   - travel restraint
   - fall arrest
   - fall restricting

V Vertical Lifelines

1. Vertical Lifelines (VLL) are for vertical access or ladder protection. For specific requirements for lanyards or lifelines, see section 26.9 of the Regulation for Construction Projects.

   Two typical examples are:

   - 5/8" diameter (three-strand or kernmantle) synthetic fibre rope, with compatible rope grab.
   - 3/16" diameter Self-Retracting Lifeline (SRL) Independent Wire Rope Core (IWRC) wire rope, with fall-indicating snap hook.

   NOTE: Since these two examples are not specifically referenced in s.26.7(2) of the Regulation for Construction Projects, they may not necessarily indicate legal compliance

2. Vertical lifelines should be suspended separately from any work position or platform system, unless authorized by an engineer.

3. Primary anchorage to a commercial lighting truss system is not recommended for any vertical lifeline system, unless authorized by an engineer.

4. Overclimbing a self-retracting lifeline anchor point is not recommended by any manufacturer.

5. An energy-absorbing lanyard should not be used in combination with a self-retracting lifeline, unless the lifeline manufacturer specifically includes one for use within the system.

6. A self-retracting lifeline should be attached directly to the dorsal D-ring on a full-body harness. A sternal D-ring connection may be allowed in some applications for vertical ladder climbing only.

7. Synthetic lifelines should not be used in direct proximity to pyrotechnics or high-heat luminaires.

8. A self-retracting lifeline should not be stored in an extended position unless permitted by the manufacturer.

VI Horizontal Lifelines

1. Horizontal Lifelines (HLL) installations include rigging grids and lighting systems. For specific key requirements for lanyards or lifelines, see section 26.9 of the Regulation for Construction Projects.

   Two typical examples of manufactured systems are:

   - 5/8" diameter (three-strand or kernmantle) synthetic fibre rope, with energy absorber, tensioning device and connecting O-rings.
   - 3/8" diameter IWRC (independent wire rope core) wire rope, with energy absorber and tensioning device.

   NOTE: Since these two examples are not specifically referenced in s.26.9 of the Regulation for Construction Projects, they may not necessarily indicate legal compliance

2. Minimum anchorage requirements and vector force calculations vary by manufacturer. The interpretation of these calculations shall be made by a professional engineer. (For specific requirements for horizontal lifeline systems, see s. 26.9(8) of the Regulation for Construction Projects).

3. Snap hooks must be connected to the supplied O-ring on a synthetic horizontal lifeline.

4. Commercially available horizontal lifelines should always be used as directed by the manufacturer.

5. The number of workers using a horizontal lifeline system should not exceed the manufacturer's specifications.

6. Synthetic lifelines should not be used in direct proximity to pyrotechnics or high-heat luminaries.

WORK POSITIONING AND ACCESS SYSTEMS

Fall hazards may be avoided or reduced by using a work positioning system. Anyone working on an elevated work positioning system should be trained by a competent person.

I Scaffolding/Platforms

Scaffolding must be erected in accordance with the manufacturer's recommendations. Key requirements for scaffolding can be found in the Regulation for Construction Projects (ss.125-142.8).

An external anchor point should be used by the worker when erecting scaffolding.

II Elevating Work Platforms

For specific key requirements, refer to the Regulation for Construction Projects (s.143-149) and the Regulation for Industrial Establishments (s.52).

1. All personnel shall be trained in the safe operation of any elevating work platform prior to use and shall use the equipment according to the manufacturer's instructions.

2. An elevating work platform shall only be used if it complies with the National Standards of Canada standard (O. Reg. 213/91, s. 144 (1)(a)).

3. A travel restraint system must be worn and attached to the engineered anchor point on the platform if workers are on platform when it is moved horizontally or vertically. (Regulation for Construction Projects O. Reg. 213/91, s.148 (e)). This guideline recommends the use of a full body harness at all times when working on a platform.

4. An elevated work platform should only be operated on a strong, stable, horizontal and level surface unless permitted by the manufacturer (refer to operator's manual).

5. Do not modify an elevated work platform in any way unless permitted by manufacturer and certified by an engineer. This includes adding planks or ladders to an elevated work platform to gain additional height.

6. Do not modify elevated work platform to override safety features.

7. Never exceed the manufacturer's rated capacity of an elevated work platform.

8. A communication system and a rescue plan must be in place before a worker goes to height.

9. The worker going to height should always control the elevated work platform. No ground-operated controls shall be engaged without the permission of the worker at height, except in an emergency.

10. Elevated platforms should not be anchored or attached to a permanent structure while working at height.

11. An elevated work platform should not be used as a crane unless specifically designed for that use.

12. A forklift should not be used as an elevating work platform unless designed and permitted by manufacturer or approved by professional engineer (see #2). Section 52 of the Regulation for Industrial Establishments could also apply.

III Boatswain's Chair

1. Boatswain's chairs should be CSA approved.

2. Refer to the key requirements in the Regulation for Construction Projects (ss. 137, 140 and 141) or the Regulation for Window Cleaning (Reg. 859) when using a boatswain's chair.

3. Every part of a hoisting and rigging system shall be capable of supporting at least 10 times the maximum load to which the part is likely to be subjected. (Regulation for Construction Projects, s. 137(8))

4. Workers in a boatswain's chair shall wear a full body harness connected to a separate fall arrest system. (Regulation for Construction Projects, s. 141(1))

IV Ladders

For specific key requirements, refer to the Regulation for Construction Projects (ss. 78-84) and the Regulation for Industrial Establishments (ss. 18-19 and 73).

1. Select the proper ladder for the intended use.
2. Inspect all ladders prior to every use to ensure structural integrity. Damaged or defective ladders should be removed from service.
3. Use ladders on firm, level surfaces. Stabilize the base of the ladder to prevent slipping and/or moving. Ensure ground surfaces, rungs and steps are clear of slippery substances.
4. Keep the base of the ladder clear for access and for traffic control. When necessary, use cones, tape, or a spotter to secure high traffic areas.
5. Do not leave tools or materials on top of any ladder. Ensure personal tools are secure when climbing ladders.
6. Straight or extension ladders should be installed on a 3:1 or 4:1 slope, e.g. one foot out at the base, for every four feet up.
7. When working above three meters (10 ft), secure the ladder. The top of a straight or extension ladder should be secured to an independent anchorage to prevent lateral movement.
8. Independent fall arrest is necessary when using a ladder as a work station above three meters (i.e. not when using a ladder to access another level.). This includes rolling A-frame ladders.
9. Always face the ladder when climbing up or down. Always maintain 3-point contact and avoid reaching beyond the side-rails of the ladder.
10. Follow the manufacturer's recommendations to determine which rungs of the ladder are appropriate to work from.
11. Ladders made of non-conductive material should be used while working around energized wiring and equipment.
12. When working in outdoor conditions extra safety measures must be taken.
13. Never use ladders horizontally as scaffold planks or runways, unless they have been designed for that purpose.

V Cranes

Key requirements for lifting workers with cranes can be found in the Regulation for Construction Projects (s. 153(2)) and in the Regulation for Industrial Establishments (s. 52).

RESCUE PLAN

According to the Regulation for Construction Projects (s. 26.1(4)), written rescue procedures must be in place before any use of a fall arrest system or safety net is used. A rescue plan should be in place whenever personnel are working at height. This plan should be posted in a conspicuous place and communicated to all workers before work begins.

A rescue plan should include:

1. The designated trained person(s) in charge of rescue.
2. Qualified on-site first aid personnel (with contact numbers) and equipment (as per the Regulation for First Aid Requirements (Reg. 1101) under the Workplace Safety and Insurance Act, 1997).
3. Names and contact phone numbers of Emergency Medical Services (EMS) or fire services resources in the jurisdiction.
4. Emergency access to worksite.
5. A back-up system of communications.
6. All rescue or emergency control procedures for any mechanical hoisting systems or elevating devices being used in the workplace.
7. Annual review and rehearsal of rescue procedures.
8. Procedures to lock-out and secure activated safety devices and unsafe work areas.

EQUIPMENT INSPECTION, MAINTENANCE AND STORAGE

1. The Regulation for Construction Projects requires that a competent worker shall inspect a fall arrest system before each use (s. 26.6(6)).

2. Follow the manufacturer's instructions and recommendations for equipment, including documentation, inspection schedule, maintenance, and storage. It is the duty of the owner and/or employer to ensure all equipment is inspected and maintained by a competent person. Follow the manufacturer's warnings about retirement schedules. Replace items, even if unused, according to the manufacturer's recommended retirement scheduling.

3. If the integrity of any fall protection equipment is in doubt, it shall be retired from service permanently or repaired and re-certified by the manufacturer.

4. Check with the manufacturer's instructions before using any cleansers, markers, paint, stickers on synthetic materials or hardware.

5. Store fall protection equipment to avoid moisture, abrasion, dirt, ultraviolet light, extreme temperatures and other hazards. Use appropriate containers to store equipment.

GUIDELINE NO. 21

APPENDIX (USEFUL TERMS)

Deceleration device: Any mechanism, such as a rope grab, rip-stop lanyard, integral lanyard, tearing or deforming lanyards, automatic self-retracting lifelines/lanyards, etc., which serves to dissipate a substantial amount of kinetic energy during a fall, and thus limit the arrest force.

Deceleration distance: The distance between the location of a worker's full body harness attachment point at the moment of activation of the deceleration device during a fall, and the location of that attachment point after the worker comes to a full stop.

Free fall: The act of falling before a personal fall arrest system begins to activate.

Free fall distance: The vertical distance between the onset of the fall to the point where the fall arrest system begins to apply force to arrest the fall.

Lower levels: Areas or surfaces to which a worker can fall. Such areas or surfaces include, but are not limited to, ground levels, floors, platforms, ramps, runways, orchestra pits, traps, water, equipment, structures, or portions thereof.

Opening: Gap or void 30 inches (76 cm) or more high and 18 inches (48 cm) or more wide, in a wall or partition, through which employees can fall to a lower level.

Snaphook: Connector comprised of a hook-shaped member with a self-closing keeper, or similar arrangement, which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object.

Toeboard: Low protective barrier that is an integral part of a guardrail system and will prevent the fall of materials or equipment to lower levels.

Unprotected sides and edges: Any side or edge (except points of access) of a walking/working surface, e.g., floor, roof, ramp, or runway where there is no wall or guardrail system at least 36 inches (0.9 m) high.

Walking/working surface: Any surface, whether horizontal or vertical on which a worker walks or works, such as floors, roofs, ramps, bridges, runways, but not including ladders.

Warning line system: Temporary demarcation erected to warn workers that they are approaching an unprotected edge. This shall outline an area at least 2 metres from a fall hazard in which work may take place without the use of guardrail or safety net systems to protect workers in the area. (May also be referred to as a "bump line".)

Work positioning device system: Full-body harness system rigged to allow a worker to be supported on an elevated surface and work with both hands.

NOTE: Many of these terms are referred to in the Regulation for Construction Projects and the Regulations for Industrial Establishments however, they are not defined in these regulations. These definitions are provided for convenience only and should not be interpreted to have legal significance.

GUIDELINE NO. 22

MOBILE ELEVATING EQUIPMENT

This guideline encompasses devices such as scissor lifts, aerial extendable boom platforms, bucket-trucks, cherry pickers, etc. It makes reference to the Regulation for Industrial Establishments (Reg. 851) and the Regulation for Construction Projects (O. Reg. 213/91) and also outlines best practices, procedures and equipment for film and television production.

1. The mobile elevating device shall be operated by a competent person (as required by section 51(2) of Reg. 851).

2. Equipment should be inspected by each technician prior to use each day as outlined in the operator's manual for the specific piece of equipment. Inspection should be in accordance with the manufacturer's instructions by a worker trained as to the manufacturer's procedures.

3. Technicians operating devices covered by this guideline should consider the job task to be performed and evaluate the job site location for potential hazards. The following should be considered:

    a) All overhead dangers should be identified, controlled or resolved prior to the commencement of work.

    b) Equipment operated within specified distances to overhead energized high voltage sources is prohibited by section 188 of O. Reg. 213/91.

    c) Ground stability should be tested and confirmed. Equipment should only be operated on a firm level surface capable of withstanding the weight and all forces applied by the machine (with special care taken looking for unseen hazards such as under ground vaults, storage tanks, parking etc.).

    d) The travel path should be clear of all hazards such as ditches, drop offs, holes, bumps, debris, or any other potential obstructions.

    e) Wheel chocks should be used when parked on inclined surfaces.

    f) Gradability should not exceed specifications in the operator's manual.

    g) Outriggers or stabilizers should be used in accordance with the operator's manual.

    h) The basket or platform should not be loaded or operated beyond its rated maximum weight, height or reach as specified in the operator's manual.

    i) Boarding or exiting a mobile elevating device should be accomplished in accordance with the manufacturer's instructions.

    j) Objects or production equipment with the potential of falling from an aerial platform should be secured with an adequate safety lanyard and/or system.

k) "Towering" or driving mobile elevating devices in the elevated position is only to be done in accordance with the manufacturer's instructions. The Key Grip and/or the operator should resolve all hazards to establish complete control of the work site and a smooth, level path of travel, capable of withstanding the weight and all forces applied by the machine.

l) When working a mobile elevating device in areas of vehicular traffic, proper signage should be in place and pay duty officers on set as required.

m) Extra caution should be exercised when adding lighting components and hanging areas of material (i.e. black drapes, tarpaulin, silks, etc.) from mobile elevating devices. In such situations, ongoing risk assessments should be performed. Such assessments should be based on safety considerations and may require adjustment due to changing weather conditions (i.e. shift in winds, storms etc.) which could cause potential danger to workers and equipment. Input from the manufacturer or an engineer should be obtained regarding wind loading of tarps or other material that may act as sails, extra weight of lighting and camera cabling hanging off man lift. Ensure that electrical cables do not snag while lifting the unit.

n) The operator's manual should be referenced as to the safe or permissible number of people and equipment working on a mobile elevating device.

NOTE: S.143 Regulation for Construction Projects O. Reg. 213/91 or s.54 of the Regulation for Industrial Establishments Reg. 851 may apply.

FALL PROTECTION AS IT PERTAINS TO MOBILE ELEVATING DEVICES

1. Fall protection shall be used when a worker is at risk of being ejected from the platform. The fall protection provided by the guardrail must be augmented by a fall arrest or a travel restraint system attached to the platform or device. A mobile elevating device shall not be moved unless all workers on it are protected against falling by a full body harness or a safety belt attached to specified attachment points on the platform (as per section 148(e) of O. Reg. 213/91).

2. While working on a mobile elevating device, you must use an approved harness fall arrest system consisting of a full body harness or 5-point harness with lanyard (as per section 26.1(3) of O. Reg. 213/91).

3. The lanyard or strap shall be attached to the boom, basket, or platform prior to operating or elevating any mobile elevating device, as specified in the Operator's Manual and required by section 148(e) of O. Reg. 213/91.

4. Tying off to an adjacent structure or equipment while working from the basket, or platform should not permitted.

5. Communication and observation are essential at all times. This includes a two- way walkie-talkie system and hand signal system.

6. Personnel should not work from mobile elevating devices when:

   (i) Exposed to extreme weather conditions (thunderstorms, heavy rain, extreme heat or cold) unless provisions have been made to ensure their safety and /or protection.

   (ii) Winds exceed the manufacturer's recommendations.

7. Personnel should not sit or climb on the guardrail of the basket/platform.

8. Personnel should not climb up to an already elevated platform.

9. If the operator's manual is missing and/or any registration decals are not clearly visible, the equipment should be rendered out of service.

10. If any function is not working as expected the equipment should be rendered out of service.

11. Never exceed the rated workload of the platform as per section 148(a) of O. Reg. 213/91. Section 144(8) of O. Reg. 213/91 requires a sign visible to the operator at its controls indicating the rated working load.

12. Do not alter or disconnect or disable any safety device (as per section 28 of OHSA).

13. Smoking while near the batteries or fuel supply of any mobile elevating devices is extremely dangerous and may cause an explosion.

This guideline should be read in conjunction with Guideline #21, Working at Heights.

GUIDELINE NO. 23

SCAFFOLDING

The erection and dismantling procedures are to be conducted by qualified technicians. This includes inspecting equipment before assembly. Scaffolds shall be inspected before use and after any modifications (as per section 130(3) of O. Reg. 213/91).

Follow the manufacturer's instructions and replace any damaged components. Safety takes precedence and includes the following:

1. The 3 to 1 rule. The total working height of a freestanding scaffolding tower should be three (3) times the distance of the narrowest side of the base (if this is a measurement of outriggers, they must be set symmetrically about the tower). If the height exceeds three (3) times the least lateral width, the scaffold tower must be secured to a suitable structure or the tower should be braced using guy wires or other suitable support.

2. If the height of the scaffolds exceed 15 metres for frame scaffold or 10 metres for tube and clamp scaffold, the scaffold shall be designed by an engineer and erected according to the design (as per section 130(1) of O. Reg. 213/91).

3. All towers should be plumbed and levelled.

4. Overhead dangers should be identified and controlled.

5. When erecting scaffolding near power lines stay outside the limits of approach as required by section 188 of O. Reg. 213/91 and specified below:

   Minimum distance from live power lines for electricity:

Voltage of live power line	**Minimum Distance**
750 to 150,000 volts	3 metres (10 feet)
150,001 to 250,000 volts	4.5 metres (15 feet)
250,001 volts and over	6 metres (20 feet)

6. Always check for overhead power lines before moving any scaffolds.

7. Observe regulated limits of approach around live electrical wires and equipment.

8. Overhead power lines should be de-energized or insulated by the local utility company.

9. Use appropriate fall protection during the erection and dismantling of the scaffold (as required by section 125(2) of O. Reg. 213/91).

10. When guardrails cannot be installed on the scaffold, use appropriate fall protection equipment when working off scaffold (as required by section 26(3) of O. Reg. 213/91).

11. Use a ladder to access the work areas of the scaffold tower.

12. Never overload a scaffold with materials or people as per section 126(3) of O. Reg. 213/91. Do not exceed the manufacturer's load specifications.

13. People shall not remain on a rolling scaffold when it is being moved unless they are wearing adequate fall protection and the scaffold is being moved on a firm level surface (as per section 129(3) of O. Reg. 213/91.

This guideline should be read in conjunction with Guideline #21, Working at Heights.

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GUIDELINE NO. 24

CHILD PERFORMERS

INTRODUCTION

This guideline has been developed for paid child performers in the entertainment industry who are working in live performance, film, television, or another recorded medium. Where tutoring or travel is part of the workday, these guidelines also apply.

Child performers are special and need particular care and protection. Many aspects of the workplace or of work activities represent a potential level of risk that is much higher for children than it would be for adults. This may result from the child's smaller physical size, lower tolerance to chemical hazards or temperature extremes, shorter attention span, and the expectation that child performers may not behave responsibly at all times with respect to their own health and safety, among other factors.

All workplace parties must be guided by what is in the best interests of the child performer. Child performers must be treated with respect at all times. No child performer may be physically punished or subjected to other harmful, frightening or humiliating treatment. Parents have an important role to play when their children are contracted to work, and must be included in discussions about the roles and responsibilities of the workplace parties, the parents and the child performer.

A child performer joint subcommittee, with members from the Ministry of Labour's Live Performance and Film and Television Health and Safety Advisory Committees, has developed this guideline. This guideline should be read in conjunction with either of the following sets of guidelines, whichever is applicable: the *Safety Guidelines for the Live Performance Industry in Ontario* or the *Safety Guidelines for the Film and Television Industry in Ontario.* The measures in the above guidelines should be considered to apply to child performers, except where there are specific and more stringent measures for child performers in this guideline. If applicable, the relevant industry agreement between the parties should also be read in conjunction with this guideline.

The measures in this guideline represent best practices within the industry when dealing with child performers; however, they are not legal requirements. Inspectors with the Ministry of Labour may refer to the measures in Part II of this guideline in determining whether employers have taken every precaution reasonable in the circumstances for the protection of child performers as required under the Occupational Health and Safety Act (OHSA).

GUIDELINE NO. 24

TERMS IN THIS GUIDELINE

Chaperone means an adult appointed in writing by the parent, or legal guardian, to act on his or her behalf. A member of the production team should not function as a chaperone.

Child Performer means a paid performer less than eighteen-years old.

Childproofed means made safe for young children. A room can be childproofed by preventing access to potential hazards or by removing potential hazards.

Directed Activity means any activity related to performance or rehearsal, on-stage or off-stage (such as exiting in a blackout, getting into a specific position, etc.) that could lead to bodily injury without proper precautions and behaviour.

Employer is defined in the OHSA as "a person who employs one or more workers or contracts for the services of one or more workers..." A person who qualifies as an employer under the OHSA has legal duties with respect to workers, including child performers. The term "employer" is not commonly used in the entertainment industry. For the purposes of this guideline, the producer or engager would generally be considered the employer, as defined under the OHSA.

Infant Performer means a Child Performer who is less than two-years-old.

Parent means a person having custody of the child as provided for by the Children's Law Reform Act.

Special Skill means an activity that requires a level of physical proficiency or other physical skill superior to that of the average child.

Supervisor is defined in the OHSA as "a person who has charge of a workplace or authority over a worker". A person who qualifies as a supervisor under the OHSA has legal duties with respect to workers, including child performers.

THE STRUCTURE OF THIS GUIDELINE

Part I: Application of the OHSA to Child Performers

The OHSA places specific rights and obligations on workplace parties, such as employers and workers, and these are enforceable as a matter of law. Part I of this guideline refers generally to those obligations, and directs readers to the OHSA and its regulations.

Part II: Health and Safety Measures

Part II of this guideline is intended to assist employers and supervisors in the entertainment industry in complying with their legal duty under the OHSA to take every precaution reasonable in the circumstances to protect child performers. Ministry of Labour inspectors are provided with, and are expected to be familiar with, this Child Performers guideline. They are encouraged to look to the measures in Part II of this guideline as reasonable precautions to protect the health and safety of child performers, but may require different measures depending on the specific circumstances of a situation. In any event, it is the OHSA and its regulations that must be complied with as a matter of law and not this guideline.

Part III: Industry Standards

The Ministry of Labour recognises these additional industry-supported standards as part of a broader commitment to the health and safety of child performers, even though the industry standards in Part III of this guideline do not fall within the scope of the OHSA. Workplaces within the entertainment industry are strongly encouraged to incorporate them into their workplace practices.

PART I: APPLICATION OF THE OHSA TO CHILD PERFORMERS

The OHSA regulates health and safety in workplaces by establishing rights and duties on the various participants in the workplace, such as employers, supervisors, workers, directors and officers, and owners of workplaces. In entertainment industry workplaces, Ministry of Labour inspectors will apply the requirements of the OHSA and the relevant regulations, such as the Regulation for Industrial Establishments, the Regulation for Workplace Hazardous Materials Information System (WHMIS), and the Regulation for Construction Projects.

The OHSA was designed with respect to workers in general. Consequently, child performers have the same protections and rights under the OHSA and its regulations as any other worker. The employer must fulfill his or her duties with respect to a child performer during the time he or she is in the workplace.

Three employer responsibilities that are particularly important to child performers are summarized below, as well as the right to refuse unsafe work.

General Duty

Under clause 25(2)(h) of the OHSA, the employer is required to take every precaution reasonable in the circumstances for the protection of a worker. No child performer shall be required to do work activities or to work in an environment where the child's health or safety may be endangered.

Duty to Provide Supervision

Under clause 25(2)(a) of the OHSA, the employer must provide supervision to a worker to protect the health or safety of the worker. The adult supervision provided to a child performer should be appropriate to the risk level present in the workplace, and to the age(s) and number of child performers.

The job title of the person assigned to supervise a child performer may differ, depending on the type of production. A person who qualifies as a supervisor under the OHSA has legal duties with respect to workers, including child performers.

Duty to Provide Information and Instruction

Under clause 25(2)(a) of the OHSA, the employer must provide information and instruction to a worker to protect the health or safety of the worker. Under clause 25(2)(d) of the OHSA, the employer must acquaint a worker or a person in authority over a worker with any hazard in the work.

Therefore, a child performer must be acquainted with any hazards associated with the specific activities that he or she will be expected to perform.

In addition, a child performer must be given adequate instruction and rehearsal time (i.e. repeated as necessary) for the specific activities he or she is to perform, as necessary to protect his or her health or safety.

Right to Refuse Work

Under subsection 43(3) of the OHSA, a worker has the right to refuse work that he or she believes is likely to endanger himself, herself, or another worker.

PART II: HEALTH AND SAFETY MEASURES

Part II of this guideline is intended to assist employers and supervisors in the entertainment industry in complying with their legal duty under the OHSA to take every precaution reasonable in the circumstances to protect child performers. Ministry of Labour inspectors are provided with, and are expected to be familiar with, this Child Performers Guideline. They are encouraged to look to the measures in Part II of this guideline as reasonable precautions to protect the health and safety of child performers, but may require different measures depending on the specific circumstances of a situation. In any event, it is the OHSA and its regulations that must be complied with as a matter of law and not this guideline.

Orientation and Training

Part I of this guideline outlines the requirement to provide information and instruction to a child performer to protect his or her health or safety (under clause 25(2)(a) of the OHSA) and to acquaint a child performer with any hazard in the work (under clause 25(2)(d) of the OHSA).

A child performer should be given orientation training to the workplace that is adequate and appropriate to their age. Orientation training should include:

- Health and safety precautions for the venue or location;
- Traffic patterns backstage or on location;
- Safe waiting areas for child performers backstage or on location;
- Restricted areas;
- Location of rest areas/rooms, toilets, makeup areas, and other relevant rooms;
- Emergency procedures; and,
- Who to talk to about hazardous conditions and what actions to take.

Depending on the circumstances, anyone charged with the care of a child performer (such as a parent, chaperone, minor's co-ordinator, or tutor) should be given the same information. Written sign-off should be obtained from the child performer and/or the parent or person charged with the care of the child performer, to ensure that this orientation has taken place.

A child performer should be made aware of all known hazards of his or her work environment and of measures and procedures to control them. This training should be given:

- at the time of engagement;
- when there are any additional hazards identified due to changes in the work environment or changes in the specific activities to be performed;
- before rehearsing or performing any new or amended scene; and,
- when repetition is appropriate to remind a child performer of the hazards.

Depending on the circumstances, anyone charged with the care of a child performer (such as a parent, chaperone, minor's co-ordinator, or tutor) should receive the same information.

GUIDELINE NO. 24

Hours of Work and Breaks

In order to address the health and safety of an infant or child performer, the hours of work should be appropriate to the age of the infant or child and should take into account his or her need for sleep, physiological needs, and response to workplace conditions. The hours of work may include the length of the workday, the length of the workweek, the start and finish times of work, and the time off between shifts.

Food and rest breaks should be scheduled with a frequency that is appropriate to the age of the infant or child performer.

Depending on the nature of the engagement (i.e. employer-employee situation), the requirements under the Employment Standards Act, 2000 may apply.

Part III of this guideline contains industry best practices on hours of work and breaks for child performers.

Hand Props, Costumes, Make-up, Wigs and Hair Products

The age and size of a child performer should be taken into account in all stages of design, purchase, construction and use of hand props, wigs, and costumes. Costumes should be designed to avoid slipping or tripping hazards, or items that might catch or become entangled, such as belts or straps.

The size of hand props to be used by a child performer under the age of three, or an older child who still puts small objects into his or her mouth, should be in accordance with the consumer products safety requirements of Health Canada.

The jewellery used by a child performer should be in accordance with the consumer products safety requirements of Health Canada.

Information on a child performer's skin sensitivities should be collected before the child performer is provided with or exposed to costumes, jewellery, make-up, wigs, or hair products.

Make-up and hair care products provided to a child performer should be chosen with regard to the age and skin sensitivity of the child.

The person providing a child performer with costumes, jewellery, make-up, wigs, or hair products should check for negative skin reactions, as appropriate.

Travel in Vehicles (on public roads, closed roads and private property)

The employer shall provide supervision to a child performer to protect his or her health and safety (clause 25(2)(a) of the OHSA), including travelling while at work (e.g. travel between sets or driving scenes). The employer should ensure that drivers hold valid licences appropriate to the vehicle being driven, that they operate the vehicles in accordance with the law, and that the vehicles are safe to operate.

During Performance

A child performer who performs in a moving vehicle shall be safely seated in the vehicle. When on public roads, a child performer shall be properly secured by a restraint system in accordance with the Regulation for Seat Belt Assemblies (Reg. 613) under the Highway Traffic Act. Where the performance is taking place on private property or on a road that has been closed for filming, and where it is not possible to secure a child performer in this manner (for example in period cars, wagons, sleighs, etc.), a risk assessment should be carried out and all reasonable precautions taken to protect the safety of the child.

Other

A child performer who travels as part of the workday shall be safely seated in the vehicle, and properly secured by a seatbelt or the appropriate child restraint system in accordance with the Regulation for Seat Belt Assemblies (Reg. 613) under the Highway Traffic Act. The same types of travel restraint systems should be used when taxis are hired.

Special Skills Activities

As outlined in Part I of this guideline, no child performer shall be required to do work activities or to work in an environment where the child's health or safety may be endangered.

Live Performance

No child performer should undertake a special skills activity unless he/she is qualified to perform the activity, or has been adequately trained in the skills needed to perform the activity safely. A child performer should be given adequate instruction, and adequate time for walkthrough(s) and/or rehearsal for any special skills activity to be performed.

When a child performer is to carry out a special skill in an environment or in circumstances that heighten the risk levels associated with that special skill, a risk assessment should be carried out and measures developed to protect the child performer, taking into account age, impulsiveness, and skill level.

GUIDELINE NO. 24

Film, Television, and other Recorded Media

No child performer should be required to perform if the child performer's parent believes the child performer is in a situation that places him or her in clear and present danger to life or limb.

Smoke and Fog

A child performer's exposure to special effect smoke or fog should be avoided. If smoke or fog must be used, the child performer's exposure should be minimized by limiting the time of their exposure, using the lowest concentration possible, and by using the least toxic or irritating product possible. Infant or child performers with respiratory problems such as asthma or reactive airway disorders should not be exposed to smoke or fog at any time. For general guidance on the use of special effect smoke and fog, see Smoke Inhalation Guidelines, *Safety Guidelines for the Film and Television Industry in Ontario* or Fog and Smoke, *Safety Guidelines for the Live Performance Industry in Ontario*.

Exposure to Tobacco Smoke

Under the Smoke-Free Ontario Act no person shall smoke or hold lighted tobacco in an enclosed workplace. In addition, no person shall sell or supply tobacco to a person who is less than 19-years-old.

At sets or venues where smoking is legally permitted, a child performer's exposure to tobacco smoke should be avoided. If tobacco or a tobacco-substitute must be used, the child performer's exposure should be minimized by limiting the time of exposure and by using the lowest concentration of smoke possible. All infant performers and child performers with respiratory problems such as asthma or reactive airway disorders should not be exposed to the smoke of tobacco or of a tobacco substitute at any time.

Open Flames

This section refers to open flames from such sources as candles, torches, campfires, and fireplaces. It does not deal with open flames that are associated with stunts. Alternatives to open flame should be seriously considered whenever there is a child performer present.

Extra care should be taken to protect a child performer from fire. Where open flame is permitted and will be used, a risk assessment should be carried out and measures developed to protect the child performer, taking into account his or her age and impulsiveness. Precautions include having fire extinguishers available, providing additional adult supervision, designing costumes with no trailing or dangling parts, and using materials that are flame resistant or treated with flame retardant that is suitable for use on children's clothing. Any trim or decoration applied to the costume after treatment with flame retardant should also be made of flame resistant materials or be treated with fire retardant.

Where open flame is permitted and will be used, a child performer shall be acquainted with any of the hazards associated with open flame and instructed in the measures and procedures required to work safely.

Pyrotechnics, Explosives, and other Special Effects

Alternatives to pyrotechnics, explosives, and other special effects should be seriously considered whenever there is a child performer present.

Extra care should be taken to protect a child performer from pyrotechnics, explosives, and other special effects. Where such special effects are permitted and will be used, a risk assessment should be carried out and measures developed to protect the child performer, taking into account his or her age and impulsiveness.

Where pyrotechnics, explosives, and other special effects are permitted and will be used, a child performer shall be acquainted with any of the hazards associated with the special effects and instructed in the measures and procedures required to work safely.

Working around Animals

Where animals are to be used in a production, extra care should be taken to protect child performers. A risk assessment should be carried out and measures developed to protect the child performers, taking into account their ages and impulsiveness.

Where animals are at the workplace, a child performer shall be acquainted with any of the hazards associated with the animals and instructed in the measures and procedures required to work safely. See the *Safety Guidelines for the Live Performance Industry in Ontario* or the *Safety Guidelines for the Film and Television Industry in Ontario* for more information on working with animals.

Work Outdoors

Child performers should be protected from high heat and humidity. In particular, infants and pre-school children are at risk in conditions of high heat and high humidity. In such conditions, precautions include providing a cool (and if possible, an air conditioned) area for rest periods, adequate hydration, and wearing costumes, headgear, and footwear that take weather conditions into account.

Child performers should be protected from cold. In such conditions, precautions include providing a warm area for rest periods, and using costumes, headgear, and footwear that take weather conditions into account.

GUIDELINE NO. 24

Child performers who are working outdoors should avoid prolonged exposure to sunlight. When UV levels are high, precautions include providing shaded areas for rest periods, using sunscreen with a Sun Protection Factor (SPF) of 15 or higher, wearing sunglasses, and wearing clothing such as sun hats and tightly-woven clothing that covers as much of the body as is practicable.

Where mosquitoes or other biting insects may be present, a risk assessment should be carried out and measures taken to minimize the exposure of child performers. Precautions include wearing protective clothing (such as light-coloured clothing with long sleeves and legs), eliminating standing water at the workplace, using an effective insect repellent that is recommended for the age of the child by Health Canada, and providing respite areas for rest periods.

For more information on health and safety precautions at outdoor productions, see Outdoor Venues, *Safety Guidelines for the Live Performance Industry in Ontario.*

Water Safety

Where performances are to take place on or in the water, or at the water's edge, extra care must be taken to protect a child performer. A risk assessment should be carried out and measures developed to protect the child performers. Work in fast-flowing currents and transfers between vessels/small craft are particularly hazardous situations.

A child performer shall be adequately instructed in the safety precautions to be taken when working on or in the water, or beside the water.

All child performers working on or in the water, or at the water's edge, should be strong swimmers, or should wear the appropriate water safety devices, such as personal flotation devices. Qualified life-saving personnel and equipment (such as safety boats) should be available for the duration of the production activity.

Costumes should be designed to avoid slipping or tripping hazards, or items that might catch or become entangled, such as belts and straps. The weight of the costume should be taken into account when choosing personal flotation devices.
When working in water, the water temperature should be taken into consideration when considering the length of time to be spent in the water and any protective items needed. Post-immersion washing facilities should be available and used.

For further information, see the *Safety Guidelines for the Film and Television Industry in Ontario.*

Playrooms

A separate, childproofed playroom should be provided for child performers aged two to five, where feasible.

The size of toys and games used by child performers under the age of three, or older children who are still putting small objects into their mouths, must comply with the consumer products safety requirements of Health Canada.

The equipment and furnishings in the playroom should be maintained in a safe and clean condition and kept in a good state of repair.

Changing Rooms

Male and female child performers should have separate dressing rooms. Where feasible, the dressing rooms should be separate from those provided to adult performers. Fittings for child performers should be conducted individually, in a private changing room. At no time should the child performer be left alone in a closed room with only one person (with the exception of the parent or chaperone).

In the live performance industry, all quick changes should be planned and rehearsed to ensure the safety of the child.

Other Precautions

Where a child performer works directly or indirectly with the equipment or in the situations listed below, a risk assessment should be carried out and measures developed to protect the child performer, taking into account his or her age, physical size, and impulsiveness.

- Firearms and weapons
- Scenery, equipment or devices that are electrical, mobile or automated
- Exposure to high levels of sound
- Working at height
- Performer flying in the live performance industry
- Sickness and child performers

Specific health and safety measures on the topics above will be developed for future editions of this guideline.

GUIDELINE NO. 24

Care of Infant Performers

In addition to the health and safety measures in this guideline that apply to child performers, this section outlines additional health and safety measures that should be taken when infant performers are at a workplace.

Trailer holding tanks should not be pumped while the infant is present or immediately prior to the infant performer's arrival. The trailer should be well ventilated prior to the arrival of the infant.

Hands should be washed before and after handling infants and after changing diapers.

Permission should be obtained from the parent prior to applying any substance to the infant's skin. When substances are used for altering an infant's appearance, provisions should be made for bathing the infant. The person providing an infant performer with costumes, jewellery, make-up, wigs, or hair products should check for negative skin reactions, as appropriate.

Substances that commonly cause allergic reactions should not be used to alter the appearance of the infant's skin, unless their use is specifically pre-approved by a medical doctor. Allergenic substances include, but are not limited to: raspberry or strawberry jams, jellies and preserves, glycerine, lubricating jellies and cosmetics.

Infants under the age of six months should not be exposed to direct sunlight.

Once costumes and hand props have been issued for use on/with an infant, the costume and hand props should not be reissued for another infant before laundering the wardrobe and disinfecting props.

A separate, sanitary, private, and warm room should be provided where the infant performer may play, eat, and rest. If the infant is mobile, the room should be childproofed.

Infant accessories, such as basinets, cribs, changing tables, toys and games must meet the consumer products safety requirements of Health Canada. They should be sanitized at the time of delivery to the workplace and on a regular basis. Infant accessories should not be exchanged from one infant to another without first having been sanitized. Bottles, nipples and pacifiers should never be exchanged among infants.

An infant performer diagnosed with a contagious illness should not be permitted to work until the infant's doctor gives him or her clearance to work in writing.

PART III: INDUSTRY STANDARDS

Even though the industry standards in Part III of this guideline do not fall within the scope of the OHSA, the Ministry of Labour recognises these additional industry-supported standards as part of a broader commitment to the health and safety of child performers. Workplaces within the entertainment industry are strongly encouraged to incorporate them into their workplace practices.

Emergency Contact and Medical Information

A parent of a child performer should provide the child's employer with current contact and emergency telephone numbers, the child's health card number, the name and number of the family doctor and pertinent medical information that would be useful in an emergency.

A parent of a child performer should complete and sign an emergency medical authorization form.

Appointment of a Chaperone

The parent of a child performer may authorize, in writing, a chaperone to care for the child and act on his or her behalf. The chaperone must be an adult, and must not be a member of the production team.

Parental Accompaniment

Live Performance

Where an infant or child performer is less than 2½-years-old, a parent should accompany him or her at all times while at the workplace.

Film, Television, and other Recorded Media

Where a child performer is less than 16-years-old, a parent should be at the location and accessible to the child performer at all times when the child performer is on set, accompany the child performer to and from the set, and accompany the child performer to hair, makeup and wardrobe.

When more than one infant performer of a parent is engaged on the same production at the same time, it is the responsibility of the parent to ensure that there is one adult to accompany each infant.

GUIDELINE NO. 24

Provision of Information to Parents

At the Time of Engagement

The employer should discuss the terms and conditions of engagement, including the script, exposure to scenes that include nudity or coarse language, any scenes that may cause psychological or emotional stress, the location of the work, and the hours of work, with a parent of a child performer. The parent should be informed of all known health and safety hazards to which the child may be exposed, and any special skill, special effect, or directed activity that will be performed. Wherever possible, the child performer should be included in these discussions.

The employer and the parent should discuss health and safety issues and other issues and agree on any precautions to protect the child performer. In the live performance industry, the agreement should be confirmed in writing.

The employer should provide the parent, and where appropriate the child performer, with copies of this Child Performers Guideline and the Procedure for Work Refusal.

During the Engagement

A parent should be included when a child performer is given orientation training to the workplace. Parents should also be included when a child performer is made aware of all known hazards of his or her work environment and of the specific activities to be performed.

The parent should be informed of changes to the script and to any special skill, special effect, or directed activity that will be performed, if the change involves the child. The parent should be informed about any changes to scenes that include exposure to nudity or coarse language or to scenes that may cause psychological or emotional stress. Both parties should agree to any such change before the child is required to rehearse or perform the changed scene. In the live performance industry, the agreement should be confirmed in writing at the earliest opportunity.

Reporting and Resolving Health and Safety Concerns

Under the OHSA, a worker has the right to refuse work where he or she has reason to believe that the physical condition of the workplace or any machine, equipment, device, or thing that he or she is to use is likely to endanger him, her, or another worker. There are circumstances where a child performer will not have the knowledge, forthrightness, or verbal skills to be able to recognize unsafe work. Therefore it is the responsibility of all adults at the workplace to look out for and protect the health and safety of child performers.

Anyone charged with the care of an infant or child performer (such as a parent, chaperone, minor's co-ordinator, or tutor) should take factors such as working conditions, physical surroundings, signs of the infant's or child's mental or physical fatigue, and the demands placed upon the infant or child and advise the parent, the employer, the supervisor, etc., if, in their judgement, conditions are such as to present a danger to the health or safety of the infant or child.

The employer should encourage child performers and all adults in contact with child performers to identify health or safety concerns, and to bring them to the attention of the child performer's supervisor. Adults should be sensitive to the distress or discomfort expressed by infant or child performers, which could be an indication of health and safety issues.

The infant or child performer's supervisor should respond immediately to concerns by stopping the work, having a discussion with the child performer , and the adults charged with the care of the infant or child, attempting to resolve the issue and, if necessary, taking corrective action. If there is no resolution to the concern, the supervisor should refer the concern to the next level of supervision.

Travel to and from the Workplace

Live Performance

The parent and the employer should agree in writing on suitable arrangements for transportation of the child performer to and from the workplace before the engagement begins.

Where a child performer is less than 10-years-old, he or she should not travel unaccompanied from the workplace. The child should be released only into the care of a person authorized by the parent. The parent should provide the employer with the names and contact information for people that they authorize to receive the child at the end of the workday.

Where a child performer is between 10 and 15-years-old, he or she may travel unaccompanied from the workplace, with a parent's written permission.

Film, Television, and other Recorded Media

The parent and the employer should agree in writing on suitable arrangements for transportation of the child performer to and from the workplace before the engagement begins. For more information, see the section on Parental Accompaniment.

Where a child performer is less than 16-years-old, a parent should accompany the child at all times while travelling to and from the workplace.

GUIDELINE NO. 24

Overnight Travel

If it is necessary for a child performer to be away from home overnight, the child should be accompanied by his or her parent at all times that the child is away from the workplace.

Care of Child Performers at the Workplace

As outlined in Part I of this guideline, the employer must provide supervision to a child performer to protect his or her health or safety (under clause 25(2)(a) of the OHSA). The adult supervision provided to the child performer should be appropriate to the risk level present in the workplace, and to the age(s) and number of children present.

Live Performance

A child performer should be cared for at all times while at the workplace. In the live performance industry, the person who is appointed to care for and supervise child performers is called a "child supervisor". This person should not be confused with the "supervisor" having statutory duties under the OHSA with respect to the child performer.

A sufficient number of "child supervisors" should be provided, depending on the age(s) of the child performer(s) and the circumstances. When the children are not rehearsing or performing, the "child supervisor" should not leave them unattended. When the "child supervisor" is on a break or otherwise unavailable, there should be an authorized suitable replacement. Where possible, a consistent "child supervisor" should be appointed for the length of the production to supervise the children.

Where an infant or child performer is less than 2½-years-old, a parent should accompany him or her at all times while at the workplace.

Where the lowest age of child performers is between 2½ and five years, there should be at least one "child supervisor" for every six child performers present.

Where the lowest age of child performers is between six and nine years, there should be at least one "child supervisor" for every 10 child performers present.

Where the lowest age of child performers is between 10 and 15 years, there should be at least one "child supervisor" for every 15 child performers present.

Film, Television, and other Recorded Media

A child performer should be cared for at all times while at the workplace. When a child performer is engaged, one individual on each set or location should be designated as the "minor's coordinator" to coordinate all matters relating to the welfare and comfort of the child performer(s). On any set on which six or more child performers are engaged, the primary responsibility of the "minor's coordinator" should be the welfare and comfort of the children, in which case "minor's coordinator" should not double as a tutor, unless all child performers are being tutored at the same time.

The parent(s) should be given the name of the individual designated as the minor's coordinator.

Hours of Work

As outlined in Part II of this guideline, the hours of work should be appropriate to the age of the infant or child and should take into account his or her need for sleep, physiological needs, and response to workplace conditions. The hours of work may include the length of the workday, the length of the workweek, the start and finish times of work, and the time off between shifts.

Live Performance

Before the engagement, the employer and a parent of a child performer should agree on the rehearsal and performance schedule to be undertaken by the child.

For the purpose of this section only, school hours will be calculated as the span of time between the commencement of classes and dismissal. Work hours will be calculated as the span of time between beginning of the first work call and release.

Where a child performer is between 2½ and five-years-old, work hours should not exceed 32 hours in a six-day workweek, with no more than two eight-hour days. The child should be released from the workplace if not appearing in the last act or section of the performance.

Where a child performer is between six and nine-years-old, the combination of school and work hours should not exceed ten hours a day, when the child is attending school. He or she should be released from the workplace if not appearing in the last act or section of the performance.

Where a child performer is between 10 and 15-years-old, the combination of school and work hours should not exceed ten hours a day, when he or she is attending school.

Film, Television, and other Recorded Media

Where an infant or child performer is less than 12-years-old, he or she should not spend more than eight hours a day at the workplace, excluding meal breaks.

Where a child performer is between 12 and 15-years-old, he or she should not spend more than 10 hours a day at the workplace, excluding meal breaks.

Where a child performer is 16 or 17-years-old, he or she should not spend more than 12 hours a day at the workplace, excluding meal breaks.

Every infant or child performer should have at least 12 continuous hours off between work shifts. Where the child performer is less than 12-years-old, the 12 hours is calculated as "door to door". Where the child performer is between 12 and 17-years-old, the 12 hours is calculated as "set to set".

GUIDELINE NO. 24

Breaks

As outlined in Part II of this guideline, food and rest breaks should be scheduled with a frequency that is appropriate to the age of the child performer.

Live Performance

Regular breaks should be scheduled as defined by industry standards, but in no case should they be less than 10 minutes for every two hours of work.

Film, Television, and other Recorded Media

Where an infant or child performer is less than three-years-old, he or she should have a minimum 20-minute break after 15 consecutive minutes before the camera or under lights.

Where a child performer is between three and five-years-old, he or she should have a minimum 15-minute break after 30 consecutive minutes before the camera or under lights.

Where a child performer is between six and 11-years-old, he or she should have a minimum 10-minute break after 45 consecutive minutes before the camera or under lights.

Where a child performer is between 12 and 15-years-old, he or she should have a minimum 10-minute break after 60 consecutive minutes before the camera or under lights.

Where a child performer is between 16 and 17-years-old, he or she should have a minimum 5-minute break after 60 consecutive minutes before the camera or under lights.

Food

Information on a child performer's food sensitivities should be collected before he or she is provided with or exposed to foods.

In the film and television industry, the employer should provide a selection of healthy snacks and drinks in recognition of the special nutritional requirements of infant and child performers. Where an infant or child performer is under the age of 14 years, he or she should be fed meals on a schedule reasonably approximating their normal meal times.

Minimum Age

An infant performer who is less than 15-days-old should not be engaged to work.

Psychological Stress

When a child performer is engaged to perform subject matter that could be psychologically damaging to the child, or results in psychological stress, a psychologist or therapist who is properly accredited by the applicable ministry should be hired by the producer to guide and assist the child to handle the emotional and mental stress of such subject matter.

RESOURCES

Safety Guidelines for the Live Performance Industry in Ontario, 3rd edition, August 2005

Safety Guidelines for the Film and Television Industry in Ontario, 5th edition, June 2009

Ropell-Baruchel, Robyne. *The Stage Mom Survival Guide*, ACTRA National, 111 pages, 2002.

GUIDELINE NO. 25

HIGH FALL

The following recommendations apply where a high fall will be used in filming. The terms "Stunt Coordinator" and "Stunt Performer" mean a coordinator or performer holding current and valid certification issued by a recognized organization.

1. Consultation between the Stunt Coordinator, the Producer and the Director will determine whether a high fall is necessary for a particular scene (meaning a Stunt Performer is needed rather than a dummy).

2. Once a determination is made, a Stunt Coordinator should be named. This Coordinator should have an endorsement for high falls.

3. The Stunt Coordinator in conjunction with the Producer and the Director will determine whether boxes, an air bag, descender or decelerator will be used to cushion the stunt performer's fall.

4. There should be no less than two (2) safety spotters for any fall over 15 feet.

5. Boxes should not be used for falls over 40 feet and air bags should not be used for falls over 120 feet.

6. The Stunt Coordinator should make the final decision regarding the placement of objects around the landing area.

7. The Stunt Coordinator should determine if the weather and other conditions are suitable for the fall.

8. The Stunt Coordinator should determine what type of medical support will be needed for the fall. Generally two (2) trained emergency medical providers and a properly equipped ambulance for transportation will be needed.

   NOTE: High fall is defined as any fall from a height that requires a specialized fall arrest system for the safe deceleration of the Stunt Performer.

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SKYDIVING

The following recommendations apply where skydiving will be used in filming. The term "Certified Parachutist" means a parachutist holding a current and valid certification card issued by a nationally or internationally recognized certification organization such as the Canadian Sport Parachuting Association.

1. Consultation between the Stunt Coordinator, the Special Effects Coordinator, the Production Manager, and the Director and Camera Operator will determine if skydiving is necessary for a particular scene.

2. Once a determination is made, the Canadian Sport Parachuting Association (or equivalent association) should be contacted to determine what type of endorsement or certification by the Parachutist would be required for the planned skydive(s).

3. When the information mentioned in #2 above is obtained then a Skydive Coordinator should be named. The Skydive Coordinator should have an endorsement or certificate equal to, or greater than, that of the Parachutist(s).

4. The Skydive Coordinator is responsible for the safety of the skydive. Factors such as location, weather, communication, and security should be part of safety evaluation.

5. Before each jump, all persons involved should be thoroughly briefed. There should be a "dry run" on the ground at the site.

6. All equipment, props, wardrobe, etc., should be made available to the Skydive Coordinator prior to the skydive for safety evaluation. Final safety approval rests with the Skydive Coordinator with respect to equipment and wardrobe used in the jump.

   NOTE: The pilot should be endorsed for skydiving.

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GUIDELINE NO. 27

HELICOPTERS

Helicopter safety may be adversely affected by changing natural conditions such as wind, air density, altitude/temperature, humidity, and time of day. Manmade conditions such as weight, weight distribution, center of gravity and/or the discharge of pyrotechnics in close proximity when it may disturb airflow around the tail rotor, can also affect the ability of the helicopter to fly. Special precautions should be taken to ensure safety when working in extreme temperatures or terrain.

1. All Aerial Coordinators and/or Pilots in Command shall possess an authorization pursuant to the appropriate section of the Canadian Aviation Regulations (CARs). Such authorization is not always required, depending on the location of the intended shoot. Contact Transport Canada General Aviation if unsure whether an authorization is required. Sixty (60) days notice is recommended, if possible.

2. The Pilot in Command is at all times the final authority over his/her helicopter and shall be in command of his/her flight operations and/or related activities. The Pilot in Command and/or Aerial Coordinator should have the authority to abort any flight operation in the interest of safety. Abort signals should be specified ahead of time.

3. Communications: The Aerial Coordinator and/or the Pilot in Command will coordinate with the designated production representative and implement a plan for communications between the participants in the air and on the ground. The plan will incorporate the following:

    a) Designated ground contact personnel.

    b) Air to ground radios, VHF or FM.

    c) Assignment of discreet frequencies (channels).

    d) Visual signals (e.g. flags specified hand signals, light or flare) that will be used to halt filming in the event of lost communications or inability to utilize radios.

    e) Abort signals, audible and visual, to halt filming in the event of unforeseen circumstances or safety hazards.

4. At the start of each day's filming the Aerial Coordinator and/or Pilot in Command and the designated production representative will conduct a safety meeting for the production staff and those persons necessary for filming, including emergency, safety and security personnel.

Note: A subsequent safety meeting may be required as necessary for intended action sequences and/or scenes.

Safety meetings should be carried out in an area as free of noise and other distractions as possible and attendance should be limited to flight crews, flight crew support staff, parachutists, ground performers (e.g. pyrotechnic teams, announcers, etc.) and key event personnel. Key event personnel are responsible for the air and ground safety and emergency operations for the event. Each participant's attendance at the briefing should be verified by roll call or otherwise and a record retained for submission to Transport Canada Aviation, if requested. Performers who are not briefed should not be permitted to participate in the flight program on that day. All briefings/safety meetings should include the following:

a) Pertinent items and the special provisions of the Aerial Coordinator and/or Pilot in Command(s) Motion Picture and Television Operations Manual and accompanying Waiver along with any additional provision issued by Transport Canada and, as appropriate, any provisions issued by a FAA Flight Standards District Office.

b) A weather briefing by a Flight Service Station Specialist or an experienced pilot covering aspects of the weather that may affect the shoot.

c) Possible risk to personnel that are involved.

d) Safeguards for personnel and equipment.

e) Communications, including a discussion of the method(s) of coordinating air traffic and suspending the shoot or recalling a performer by both radio and visual signals.

f) Emergency procedures, including firefighting or other emergency services equipment available.

g) Location of boundaries.

h) Local governmental limitations or restrictions, if any.

5. A preplanned stunt and/or special effect sequence should not be changed in any way without the authorization of the Aerial Coordinator and/or Pilot in Command. No changes shall be made once the helicopter(s) is/are airborne.

6. The Aerial Coordinator and/or Pilot in Command should designate one (1) person as the ground safety contact with no other responsibilities. The helicopter support truck operator may be designated as the ground safety contact around the helicopter. This individual should attend any relevant safety meetings for production staff.

7. If there is a question as to the safety of any aerial filming sequence involving low, over-the-camera shots, a safety meeting should be held between the Aerial Coordinator and/or Pilot in Command and concerned persons as to whether the use of a locked-off camera is necessary.

8. There should be no smoking within 33 metres (100 feet) of the helicopter or support fuel truck.

9. Remain at least 17 metres (50 feet) away from the helicopter unless directed by the Aerial Coordinator and/or Pilot in Command or ground safety contact. Under no circumstances should you approach the helicopter without permission from the ground safety contact or the Pilot in Command.

10. Whether the rotors are turning or not, ALWAYS approach and leave the helicopter from the front. Prior to your approach of the helicopter:

    - Make acknowledged eye contact with the pilot.
    - Proceed to the helicopter only after the pilot has acknowledged your presence and waves you forward.
    - Never run.
    - Walk, looking forward at all times.
    - Never walk downhill towards a helicopter.
    - Never walk uphill away from a helicopter.

11. Never walk near, around or under the rear and tail sections of the helicopter, whether it is running or not.

12. Carry all equipment parallel to the ground when within 17 metres (50 feet) of a helicopter. Do not vertically extend any equipment, (i.e., cameras, lights, or sound boom) into rotor blades, whether it is running or not.

13. Flight operations closer than 150 metres (500 feet) to persons will include only those persons consenting to be in close proximity to the aircraft and who are directly involved and necessary for the filming.

The Aerial Coordinator and/or Pilot in Command and the designated security personnel should generally maintain an area perimeter to ensure that no unauthorized persons come within 150 metres (500 feet) of the flight operations. See Transport Canada / Canadian Aviation Regulations Standards (CARS) 623.07 for special considerations.

14. Personal Protective Equipment should be utilized as required.

15. Protect eyes as well as equipment when the helicopter is landing and taking off.

16. Never under any circumstance throw anything such as grip tape, clothing, paper, etc. around the helicopter, whether it is running or not.

17. Helicopters should remain at least fifty (50) feet away from any animal.

18. Landing areas and assembly sites should be located at a safe distance from trees, poles, power-lines and other obstructions and should be cleared of debris and, where necessary, wet down. Ensure all equipment is tied down or stored away from the area

19. Plot plans and graphics will be prepared to locate landing area, intended flight paths, designated emergency landing sites, and locations, as well as types of explosives or squibs.

20. Do not wear any loose clothing that may blow off, such as hats, when operating near a running helicopter.

21. Rotor blades and the fuselage can be easily damaged while on the ground. Never push, handle, sit on or in, or lay any objects of any kind on an aircraft without the pilot's knowledge.

22. If a foreign object falls into or against a helicopter, report it immediately to the pilot or aerial coordinator.

23. Never allow cast or crew to occupy an aircraft while engines are running or rotors are turning, unless authorized by the Pilot in Command.

24. When working on location or when utilizing Department of Defense aircraft, local agencies, regional police, fire, park department regulations, or military guidelines may vary from this guideline. The more stringent guidelines should always be in effect. Additional permits may be required for landing or refueling operations.

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25. The production company must notify all cast and crew-members and the front of the call sheet shall contain a statement to the effect that: *"An aircraft is being used and will be flown in close proximity to crew and equipment. Any concerns should be brought to the attention of the Production Manager or 1st AD prior to any filming."*

26. All procedures relating to stunts, firearms, pyrotechnics, etc., should be fully observed.

27. When camerapersons are hanging out of the helicopter with the door off they should be wearing a seat-belt, and safety harness. The camera should also be secured separately from the cameraperson.

28. In the case of combined vehicle/helicopter stunts, the ground should be wet down only if acceptable to the stunt drivers and the pilot.

29. When the helicopter is used for transporting goods and materials into or out of difficult locations it must be supervised by the Aerial Coordinator and/or the Pilot in Command with due consideration.

30. A COPY OF THIS GUIDELINE SHOULD BE ATTACHED TO THE CALL SHEET ON DAYS THAT THE HELICOPTER IS BEING UTILIZED.

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FIXED WING AIRCRAFT

The following procedures are recommended for all fixed wing aircraft work. When applicable, this Guideline should also be read in conjunction with Guideline #5, (Stunt Plan) and Guideline #17 (Camera Vehicles).

Fixed wing aircraft (i.e. aircraft, gliders, ultra lights) flying may be adversely affected by changing natural conditions or adverse weather conditions such as wind, temperature and time of day.

Man made conditions such as weight, externally mounted equipment and the discharge of pyrotechnics and/or smoke can also affect the pilot's ability to fly safely. Special precautions should be taken to ensure safety when working around aircraft that are operating in close proximity to camera, cast and crew, including taxiing, take off and landing.

It should be noted that, except where necessary for takeoff or landing, Transport Canada prohibits the operation of an aircraft below the following altitudes:

a) Over Congested Areas: Over any congested area of a city, town or settlement, or over any open air assembly of persons, an altitude of 300 metres (1,000 feet) above the highest obstacle within a horizontal radius of 600 metres (2,000 feet) of the aircraft.

b) Over other than Congested Areas: An altitude of 150 metres (500 feet) above the surface, except over open water or sparsely populated areas. In that case, the aircraft may not be operated closer than 150 metres (500 feet) to any person, vessel, vehicle or structure.

1. All Pilots in Command should possess an authorization pursuant to the appropriate section of the Canadian Aviation Regulations (CARs). Such authorization is not always required, depending on the location of the intended shoot. Contact Transport Canada General Aviation if unsure whether an authorization is required, sixty (60) days notice is recommended, if possible.

2. The Pilot in Command is at all times the final authority over his/her airplane and should be in command over his/her flight operations and/or related activities.

3. Communications: The Aerial Coordinator and/or Pilot in Command will coordinate with the designated production representative and implement a plan for communications between the participants in the air and on the ground. These may include, but are not limited to, ground contact personnel, air to ground radio communication, designated frequencies or channels, visual signs, abort signals and hand signals. Single channel communication between ground and air should be established and maintained at all times during the operation of the aircraft using only ONE ground contact.

4. Necessary Crew and Persons Authorized

   a) Flight operations closer than 150 metres (500 feet) to persons will include only those persons consenting to be in close proximity to the aircraft and who are directly involved and necessary for the filming.

   b) The Aerial Coordinator and/or Pilot in Command and the designated security personnel should generally maintain an area perimeter to ensure that no unauthorized persons come within 150 metres (500 feet) of the flight operations. See Transport Canada / Canadian Aviation Regulations Standards (CARS) 623.07 for special considerations.

5. A pre-planned stunt or special effect sequence should not be changed in any way without the authorization of the Aerial Coordinator and/or Pilot in Command.

6. At the start of each day's filming the Aerial Coordinator and/or Pilot in Command and the designated production representative should conduct a safety meeting for the production staff of those persons necessary for filming, including emergency, safety and security personnel.

   Safety meetings should be carried out in an area as free of noise and other distractions as possible and attendance should be limited to flight crews, flight crew support staff, parachutists, ground performers (e.g. pyrotechnic teams, announcers, etc.) and key event personnel. Key event personnel are the persons responsible for the air and ground safety and emergency operations for the event. Each participant's attendance at the briefing should be verified by roll call or otherwise and a record retained for submission to Transport Canada Aviation, if requested. Performers who are not briefed should not be permitted to participate in the flight program on that day.

7. The Aerial Coordinator and/or Pilot in Command should designate one (1) person as the ground safety contact with no other responsibilities. This individual should attend any relevant safety meetings for production staff.

8. If there is a question as to the safety of any aerial filming sequence involving low, over-the-camera shots, a safety meeting should be held between the Aerial Coordinator and/or Pilot in Command and concerned persons as to whether the use of a locked-off camera is necessary.

9. The production company must notify all cast and crew members and the front of the studio call sheet should contain a statement to the effect that: *"An aircraft is being used and will be flown in close proximity to crew and equipment. Any concerns should be brought to the attention of the Production Manager or 1st AD prior to any filming."*

10. Cast, crew, and equipment should be held in a protected area on the ground at all times.

11. If an aircraft is being filmed with the engine running, adequate safety precautions should be taken in connection with activity in front of the propeller, which includes designated ground personnel.

12. There should be no smoking within 33 metres (100 feet) of the aircraft or fuel support truck.

13. Any damage or question of damage to an aircraft should be reported immediately to the Aerial Coordinator and/or Pilot in Command.

14. Each end of an operational runway or landing area should be cleared during take-off and landing and appropriate safety precautions should be taken as to the placement of camera equipment when filming the take-off or landing.

15. Low level acrobatic manoeuvres should be conducted in a direction which will most closely parallel the boundaries of the designated crew and equipment area or in a direction away from such areas.

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GUIDELINE NO. 29

HOT AIR BALLOONS

This Guideline is intended to provide recommendations for the safe use of Hot Air Balloons.

1. Any balloon that is inflated and standing must have a Transport Canada certified pilot. A qualified pilot shall be utilized to pilot a balloon, or dirigible. A dirigible or airship is a lighter than air aircraft that can be steered and propelled through the air using rudders, propellers and other thrust. See Canadian Aviation Regulations Standards (CARS) 623.21 for specific pilot qualifications.

   Utilize a qualified pilot to pilot the hot air balloon. All Federal, Provincial and local regulations must be followed and proper documentation obtained.

2. Prepare plot plans and graphics to locate landing area, intended flight paths, and designated emergency landing sites. Included should be the types of special effects that may be used in conjunction with the hot air balloon.

   A pre-flight safety meeting should be held and documented with appropriate personnel involved in the sequence.

3. Only personnel essential to the filming of the balloon should be in the area. All other personnel should remain at least sixteen (16) metres (50 feet) away from the balloon.

4. Prior to the launch and during the operation of the balloon, communication between one designated ground contact person and the pilot should be established and maintained on a radio acceptable to the pilot and aerial coordinator.

5. If safety becomes a question at any time, the aerial coordinator or the involved pilot shall have the authority and the responsibility to call an abort of the operation. However, in the event of a dispute the pilot will have the ultimate authority to abort an operation.

6. No smoking is allowed within thirty three (33) metres (100 feet) of the balloon or any of its components.

7. Check on predicted weather conditions in the areas of the launch site, flight plans and landing site. Provide as much advance notice as possible to the pilot as regarding any weather problems, such as high winds, rain or lightning. Sudden changes in any of the above could delay or cancel the flight plans.

8. Balloon Support equipment is very important and parts are easily damaged while on the ground. Do not step on any part of the balloon or tether ropes.

9. Keep all sharp objects, heat sources or open flames and non-essential equipment at least thirty three (33) metres (100 feet) from the balloon.

10. A chase vehicle should be assigned to no other duty than to support the balloon crew.

11. Before any stunt or sequence is to be performed, all persons involved should attend a safety meeting and be thoroughly briefed as to any potential hazards and safety questions prior to the filming.

12. If an emergency occurs, DO NOT TOUCH any part of the balloon. Immediately call 911. A designated balloon ground crew person should take charge and coordinate rescue operations.

13. No change to the preplanned stunt and/or special effect sequence should be made without holding an additional flight safety meeting with all appropriate personnel involved in the sequence.

14. If anyone involved in the sequence (production staff and all other persons necessary for filming including emergency, safety and security personnel) are unsure about any part of the balloon operation, ask the pilot.

Issued: Jun/09

GUIDELINE NO. 30

UNDERWATER STUNTS AND UNDERWATER OPERATIONS

Divers employed within Ontario are required to comply with the requirements of Ontario Regulation 629/94 Regulation for Diving Operations (the Regulation) and the Ontario Occupational Health and Safety Act (OHSA).

The Regulation applies to any diving operation, or any function that is in support of a diving operation.

The Regulation sets out duties and responsibilities for various parties including employers, owners, diving supervisors, divers and diver's tenders.

Some of the features of the Regulation that relate to underwater performances are summarized below. However, this guideline does not replace the requirements set out in the Regulation, and if there is a difference between this guideline and the Regulation, the Regulation will apply.

GIVING NOTICE OF DIVING OPERATIONS

A written, faxed or oral notice is required to be given to the Ministry of Labour by each employer or owner associated with a diving operation prior to the commencement of the dive. A completed Notice for Diving Operation form must be submitted to the Ministry within thirty (30) days of the commencement of the diving operation.

A copy of the written notice must be available at the dive site for inspection by a Ministry inspector.

Written notice must be provided on a "Notice for Diving Operations" form, available from the Ministry of Labour.

Subsection 5(4) of the Regulation outlines the information to be included on the notice to the Ministry. The following is some of the information to be included on the form:

- location of the dive site;
- expected start date and duration of the diving operation;
- dates when and times of day during which the diving operation is expected to be carried out;
- name, mailing address and telephone number of an owner or employer who is associated with the diving operation;
- maximum depth of any dive in the diving operation;

- description of the tasks expected to be performed in the diving operation; and
- breathing mixtures expected to be used during the diving operation.

Oral notice information (as required by subsection 5 of the Regulation) must include:

- location of the dive site;
- expected start and duration times of the diving operation;
- name, mailing address and telephone number of an owner or employer who is associated with the diving operation; and
- statement whether the diving operation is to be offshore or onshore.

The contact numbers for the Ministry of Labour, Diving Offices are:

Eastern Region	**Central Region**
Ministry of Labour 347 Preston Street, 4th Floor Ottawa ON K1S 3J4 Tel. Notice (613) 228-8050 Toll Free 1-800-267-1916 Fax Notice (613) 727-2900	Ministry of Labour 1110 Stellar Drive, Unit 102 Newmarket ON L3Y 7B7 Tel. Notice (905) 953-3999 Toll Free 1-888-299-3138 Fax Notice (905) 715-7609
Western Region	**Northern Region**
Ministry of Labour 155 Frobisher Drive, Unit G213 Waterloo ON N2V 2E1 Tel. Notice (519) 883-5699 Toll Free 1-800-265-2468 Fax. Notice (519) 883-5694	Ministry of Labour 159 Cedar Street, Ste. 301 Sudbury ON P3E 6A5 Tel. Notice (705) 564-7306 Toll Free 1-800-461-6325 ext. 47306 Fax Notice (705) 564-7435

Any changes made to the plan after the MOL notification must be provided to the Ministry. The employer and owner associated with the diving operation who provide notice to the Ministry must also ensure that a written operation plan and a written contingency plan for each diving operation must be prepared with input from one or more of the diving supervisors (see "Diving Crew" section) appointed for the diving operation. Items to be included in the plan as per s. 7 of the Regulation are as follows:

An OPERATION PLAN must:

- describe the tasks to be performed in the diving operation;
- state how those tasks are to be performed;

- state how the hazards to be encountered in the diving operation, are to be identified and handled; and
- state which agencies and facilities will be given notice under s. 9 of the Regulation.

A CONTINGENCY PLAN must:

- include instructions for communicating with medical assistance in the event of an emergency
- outline emergency procedures for the evacuation of an injured diver from the dive site
- outline emergency procedures for responding to any significant failure of a component of any diving equipment
- outline emergency procedures for responding to a loss of communication with a diver
- outline emergency procedures for responding to hazardous weather or ice conditions
- outline emergency procedures for aborting a dive
- outline emergency procedures for responding to any inability of an offshore dive site to maintain station

All diving crew members are to be briefed on the plans and the plans must be available at the dive site for inspection by a Ministry Inspector.

Section 9 of the Regulation requires notification to the law enforcement agency that has responsibilities in relation to the area in which the dive site is located.

The Regulation and the Occupational Health and Safety Act are documents required to be at the dive site. In addition, s. 8 of the Regulation requires the following documents to be available at the dive site:

- A copy of any written notice that has been given in respect of the diving operation under subsection 5 (1).
- Where written notice has not yet been given in respect of the diving operation under subsection 5 (1), a written statement including the date of the oral notice given in respect of the diving operation and name of the person to whom the oral notice was given.
- A copy of the operational plan prepared for the diving operation under section 7.
- A copy of the contingency plan prepared for the diving operation under section 7.
- A copy of this Regulation.

- A copy of any standard published by the Canadian Standards Association and referred to in this Regulation that may apply to the diving operation.

In addition, there must be a diver's log book that includes a diver's medical certificates and documentation to prove diver's competency as per subsection 4.1. of the Regulation. Finally, the daily record (site log book) must be on site (as per subsection 12(1) of the Regulation).

If operating within the port of Toronto you must notify and receive written approval from the Harbour Master. The Toronto Police Marine Unit must also be made aware of the diving activity. If operating in the port of Thunder Bay you must notify and receive written approval from the Port Authority.

DIVING CREW

The Regulation states a minimum crew requirement where SCUBA (Self-Contained Underwater Breathing Apparatus) or surface-supplied diving is used for underwater film production. The Dive Supervisor will determine the number of personal necessary for each dive. Section 6 of the Regulation requires that a competent diving supervisor be appointed to every diving operation.

The **minimum** crew requirement, as per the Regulation, must be three (3) certified competent members for a basic diving team. They must include:

- a diving supervisor
- a standby diver
- a diver
- a diver's tender

Section 37 of the Regulation sets out crew requirements where SCUBA is used and in subsection 37(2) allows that the diving supervisor to also function either as a standby diver or as a diver's tender. Section 39 of the Regulation sets out minimum crew requirements when surface supplied diving is conducted. A diver's tender is required for surface supplied diving. A diving supervisor may dive in the case of an emergency or act as the diver's tender.

Subsection 4.1 (2) of the Regulations requires that an employer shall ensure that all persons who participate in a diving operation are trained to a level of competency equal to or exceeding the competency requirement of CSA Z275.4-02, Competency for Diving Operations for the type of diving that is used.

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(**Note:** Recreational diving certification is not acceptable for occupational diving purposes in Ontario)

Each diver, dive supervisor, and diver's tender must he qualified in CPR and first aid. Qualification documentation must he available at the dive site. Each occupational diver must be certified medically fit to dive. A physician who is knowledgeable in diving and hyperbaric medicine must conduct the diving medical.

The OHSA and sections 12, 13 and 14 of the Regulation outline some of the key duties of each crew member, before, during and after the dive. Sections 4 to 11 include duties of Constructor, Employer and Owner. The Divers and Diver's Tender have specific duties under sections 13 and 14.

Section 63 of the Regulation requires every diver to maintain an up-to-date logbook, which includes proof of fitness and competence. Section 64 of the Regulation requires a diving supervisor to maintain a daily record of a diving operation containing prescribed information.

No person shall dive unless he or she has undergone a diving medical examination during the twenty-four (24) month period preceding the dive and has obtained a written statement from the examining physician indicating that the diver is fit to dive. The examining physician must be knowledgeable in diving and hyperbaric operations as per section 32 of the Regulation.

Section 33 of the Regulation states that the employer associated with the diving operation must ensure that up-to-date certification in cardio-pulmonary resuscitation and basic first aid is held by each of the following:

- the diving supervisor
- each participating diver
- at least one worker at the dive site in addition to the dive crew

EQUIPMENT

Section 15 of the Regulation requires that the Employer and Dive Supervisor must ensure that the equipment used, in support of the diving operation, is adequate, and is maintained properly by a competent person and tested in accordance to the manufacturer's procedures. All SCUBA cylinders must be hydrostatically tested every 5 years.

Specific requirements regarding personal diving equipment and dive site equipment are listed in sections 16 and 17 of the Regulation.

The requirements for the lifelines are outlined in s.18 of the Regulation, as follows:

The diving supervisor must ensure that an adequate lifeline is attached to each diver at all times the diver is in the water.

The Producer and the diving supervisor must ensure that each submerged diver is connected to the dive site by a two-way communication system. This communication may be by voice or pre-arranged line signals but must meet the requirements of s.19 of the Regulation.

Sections 20-24 of the Regulation contain specific requirements for cranes and hoisting devices, fall arrest systems, stages, hyperbaric chambers and gauges and metering equipment.

BREATHING MIXTURES

Breathing mixtures are to be suitable for the diving operation, and should not, for example, contain levels of nitrogen or oxygen that would be a hazard at the planned depth and duration of the dive. Subsection 5(3) requires the Employers and Owner to give notice to the Ministry if a breathing mixture other than air is used.

There must be a primary supply of breathing mixture that is adequate to complete the dive as planned and a secondary supply, which in the case of SCUBA is to be one complete SCUBA unit with a fully charged cylinder.

Each diver must also be equipped with an emergency bailout or emergency reserve system, see sections 26 and 27 of the Regulation. The purity of any breathing mixture must conform to the CSA Standard Z275.2-92 (as per section 29 of the Regulation).

There are also requirements for compressors that are used in diving operations to supply breathing mixtures and oxygen systems in s.30 and s.31 of the Regulation.

Low pressure compressors used to supply breathing air to surface supplied divers, must provide twice the volume required and 25% more pressure than required for the maximum depth of the dive. In addition, the air should be filtered and analyzed for carbon monoxide at all times while it is in operation (as per CSA Z180.1-05). The breathing air should be tested for purity semi-annually by an accredited laboratory (as per CSA Z180.1-05).

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SCUBA AND SURFACE – SUPPLIED DIVING

Diving in the entertainment industry will in most cases require the use of SCUBA or a surface-supplied system. There are specific provisions for both in sections 36-41of the Regulation. Of particular relevance are the prohibitions on the use of SCUBA, in section 36 where these apply a surface-supplied system must be used.

SCUBA must not be used near a water intake or in a pipe, tunnel, duct or other confined space where the proximity may pose a health and safety risk to the diver. SCUBA divers are prohibited from diving at a water control structure, working with power tools, hoisting devices, and explosive, burning or welding equipment, in depths deeper than 100 feet and in contaminated environments (as per section 36 of the Regulation).

DUTIES OF DIVING SUPERVISORS

The person who is hired as the Diving Supervisor shall ensure that there is an adequate number of divers who are adequately trained for the job (as per subsection 37(1) of the Regulation). Section 7 sets out the requirement for an operational plan and a contingency plan and requires input from the Diving Supervisor. Subsection 12(3)(a) requires the Diving Supervisor to ensure the operational and contingency plans are followed. Subsection 13(3)(b) requires the Diving Supervisor to brief the workers on the operational and contingency plan.

They will ensure that all stand-by divers are adequately dressed and equipped at all times during the operation and that no standby diver dives except in the event of a health or safety emergency.

The Diving Supervisor will refer to the requirements set out in the Regulation and follow the duties as listed in the Regulation.

DUTIES OF DIVERS AND STAND-BY DIVERS

Divers and Standby Divers must be adequately trained and physically fit for the job. Standby divers must not dive except in the event of a health and safety emergency. Divers and standby divers must be in compliance with section 13 of the Regulation.

DUTIES OF DIVER'S TENDER

A Diver's Tender shall ensure that he or she does not perform any duties other than that of a diver's tender except where he or she is also acting as the Diving Supervisor (as per subsection 13(9) of the Regulation).

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WATER HAZARDS

The following procedures are recommended for all water work including, but not limited to, fountains, ponds, rivers, lakes, swamps, bogs, and oceans.

Note: This is not a comprehensive list of procedures to consider and does not relieve the workplace parties of their obligations under the OHSA.

1. Small controlled ponds within studio property should be kept drained. The pond should be filled immediately prior to production and drained when production is completed.

2. Water in large, controlled ponds located inside studio property should be analysed with written results available to production staff no later than 48 hours prior to production use. If results indicate unacceptable levels of contaminants (i.e. not in compliance with applicable regulatory standards for "recreational full body contact"), steps to eliminate them should be taken. A second, independent analysis should be conducted and results made available to the Producer no later than 24 hours before use.

3. When work in a body of water is contemplated, including still water areas such as swamps, bogs, or ponds, the Producer should determine the pollution or contaminant content through analysis of water samples. If results show unacceptable levels, precautions should be taken (i.e., wearing a special suit so no water touches the skin) or the location should be changed.

   NOTE: Extreme care should be taken regarding the existence of snakes and other poisonous reptiles.

4. When work in a body of water is contemplated, the Producer should obtain all available knowledge from local authorities as to currents, winds, storms, natural hazards, upstream configurations such as dams, waste disposal sites, chemical plant dumping sites, and flash flood dangers, etc., prior to actual filming.

   NOTE: If a safety hazard is found to exist, the Producer should inform all cast and crew and take precautions to minimize or eliminate the risk, or relocate the shooting site.

5. When it is necessary for personnel to work in fast moving rivers, downstream personal protective equipment (PPE) such as life vests and safety equipment such as ropes shall be provided (as per section 27 of O. Reg. 213/91). An emergency rescue plan will be in place and will be communicated to all personnel (as per section 27 of O. Reg. 213/91).

6. When work on or in a body of water is contemplated, the Producer should contact local authorities (including police, fire departments, Toronto Harbour Master, Toronto Film and Television Office, the Metro Toronto Police Marine Unit, or similar local authority having jurisdiction) to determine if any known hazards such as sub-surface objects, underwater life or contaminants exist. If a safety hazard is found to exist, the Producer should inform all cast and crew and shall take precautions to minimize or eliminate risk, or relocate the shooting site.

7. Where boating traffic is anticipated, all precautions including those mandated by the municipal police force (who have authority over water traffic flow) should be enforced.

8. All personnel scheduled for water work should be notified in advance.

9. All personnel working on, in or around water should have the ability to swim and/or appropriate water safety devices should be provided, including safety divers and/or lifeguards. Section 86 of Reg. 851 also requires an alarm system be present, plus the use of life jackets or written measures and procedures to prevent a worker from drowning.

10. Water temperature should be taken into consideration, especially during the colder seasons, or when production companies are shooting at distant and/or upper elevations.

    NOTE: This is imperative due to the real possibility of hypothermia, a lowering of the internal body temperature to below 37°C, caused by exposure to cold. Hypothermia can be fatal.

    Where necessary, the Producer shall provide the required "wet" or "dry" suits and warming stations, when applicable, for personnel required to work in the water (as per 25(2)(h) of OHSA). Safety notices regarding the treatment of hypothermia should be attached to the Call Sheet. Also refer to Appendix C.

11. The Producer shall ensure that certified safety personnel and equipment (i.e. safety boat) are available for the duration of all production activity on, in or near water locations for the protection of a worker as required by 25(2)(h) of OHSA.

12. All foreign objects which are potentially hazardous, other than those required for pictorial needs, should either be removed or identified and marked.

13. All personnel should be advised to keep potential contaminants away from the water such as paints, thinners, repellents, gasoline and oils, etc.

14. Post-immersion washing facilities should be available at all water use sites and their use enforced.

15. No electrical source other than one protected by ground fault circuit interceptors (GFCI) should be utilized for production use in close proximity to water. This includes aquariums, swimming pools, hot tubs, fountains, showers, ponds, rivers, lakes, swamps, bogs, and oceans. Sections 44.1 and 44.2 of Reg. 851 and sections 195.2 and 195.3 of O. Reg. 213/91 set out the requirements for GFCIs in wet locations.

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WATER LOCATIONS, SMALL CRAFT/VESSEL AND AT DOCKSIDE

The following procedures are recommended for all work at dockside, water's edge, aboard certified ships (certified by the appropriate authority in which the ship is registered) or small craft, and for transfers between vessels/small craft [(a vessel less than 12 metres (42') in length and under 15 gross tonnage (600 cu. ft) and carrying up to 12 passengers)], in, under and over the water.

Notice should be given to the Harbour Master or other port authority having jurisdiction.

All water craft operation and licensing is subject to municipal, provincial, and/or federal legislation or by-laws.

As a general consideration, all persons working in these situations need to be prepared for the possibility of accidentally entering the water. Written notification, in the form of this guideline attached to the call sheet, and an on-set safety meeting, held prior to the start of work should be provided.

An emergency evacuation plan should be developed and should consider the following:

- If working out on the water or at a remote location, a shore location should be predetermined where to meet emergency equipment so personnel have easy access to affect a rescue or remove a victim to hospital.
- A safety boat dedicated to remove a victim to emergency evacuation point.
- Location of the nearest hospital and confirmation of its capacity to deal with water related emergencies such as a diving accident, and confirmation that the necessary equipment is in service.
- A land based vehicle should be available and the operator should be familiar with the plan and know the route to the hospital in a non-emergency situation.

The greatest dangers around water are drowning and hypothermia. Most victims who drown prior to suffering the effects of hypothermia do so within six (6) minutes of immersion (see Appendix C). Therefore, a rescue plan should be in place.

AT DOCKSIDE / WATER'S EDGE

1. All persons working on a dock should wear high visibility clothing. This is especially important if the dock is accommodating other work while filming is underway, or if heavy equipment is operating on the dock.

2. Only qualified crew personnel, as designated by the Department Head or Production Manager, should operate equipment supplied at dockside, including outlets for steam, water or power.
3. A spotter should accompany the camera operator at all times while filming on a dock.
4. All persons working on a dock should have the ability to swim and/or appropriate water safety devices should be provided. Section 86 of Reg. 851 requires that an alarm system be present plus the use of life jackets or written measures and procedures to prevent a worker from drowning.

BOARDING VESSELS

1. Stand clear of the boat and dock edge during docking procedures. Do not attempt to board until the watercraft is securely tied to the dock and a member of the boat crew gives the command to board.
2. Never under any circumstances place arms, legs or any other part of the body between the boat and dock or between two boats.
3. When boarding, only the designated boarding area or device should be used. Do not step over rails, gunwales or lifelines.
4. Do not block access to the watercraft's cleats or emergency access hatches. If you are unsure where to stow your gear or other equipment, ask one of the watercraft crew members.

ABOARD SMALL CRAFT / VESSELS

1. The Ship's Master and or authorities having jurisdiction shall be the final authority in all matters concerning safety provisions and procedures for all persons, and for the safe operation of the vessel.
2. In the event of adverse weather conditions, the Ship's Master or authorities having jurisdiction shall be the final authority on whether the vessel will sail, or whether the vessel shall immediately return to port.
3. Before departure, all persons aboard should be thoroughly briefed about the location of safety equipment, its use, and the procedures to be followed for abandoning the water craft, rescue procedures for a person overboard, or any threat to the integrity of the ship. The safety measures should also include those relating to the protection of limbs, the avoidance of ropes and docking lines, and the effect of movement and grouping of people on the stability of the vessel. Sufficient time for this briefing should be provided in the production schedule so that all persons may be present and not otherwise engaged in preparation or loading while the briefing is taking place.

4. A designated person should be in possession of equipment capable of providing two-way communication with the shore. This person should be identified at the safety briefing before departure.

5. All Production personnel should wear non-slip footwear. Outer apparel should be unencumbered by items that could catch, such as belts, straps, etc. If kit/tool/battery belts need to be worn, they should not limit the free movement of the person while boarding, aboard or departing the ship. It is important to consider the weight of these items when choosing flotation gear, as they may impair the flotation effect. In addition, when carrying equipment of any weight there should be quick release built into the equipment, and it should be in good working order. The person using such equipment should be educated in the use of quick release and be able to demonstrate its use. This is critical since the extra weight of the equipment could render the flotation device ineffective.

6. While filming or traveling aboard a vessel, a second craft should be in the immediate vicinity as a safety boat. At least one person on either craft should be qualified in life-saving on water.

7. A spotter should accompany a camera operator on the vessel, when the camera is not stationery.

8. Prior to use of a temporary structure constructed on a vessel it should first be inspected by a person who is competent by training, knowledge, and experience. Where the inspection reveals a defect or condition that adversely affects the structural integrity of such, no person should use it until the defect is remedied.

9. No person should work on a temporary structure on a ship in rain, hail or an electrical or wind storm that is likely to be hazardous to his/her safety or health, except where the work is required to remove a hazard, to rescue a person or to protect the safety of the ship.

10. Only the minimum number of people required should be in a small craft. The total number of people aboard should never exceed the safety rating for the craft.

11. If a small craft is being used as a camera boat or as a "picture boat", a second craft shall be in the immediate vicinity as a safety boat. The safety boat should be in two-way communication with the ship/craft, shall have the capacity to accommodate its own crew plus the number of persons it is providing protection for, and be in two-way communication with the camera/picture boat and shore.

12. All people working in a small craft in open water shall wear flotation garments. A variety of flotation garments are described in Appendix D.

13. Drinking water and appropriate foods for alleviation of motion sickness should be provided upon departure.

14. Only vessels which comply with the Canada Shipping Act Small Vessel Regulations shall be used, except when dictated by script requirements for any picture boat.

15. The new Small Vessels Regulations made under the Canada Shipping Act is expected to come into force later this year (2009) and contains the following changes:

- To operate a commercial vessel under 5 tons or approximately 8 metres or smaller, the following is required:
  - Operator must have a M.E.D. A3 (Marine Emergency Duty Course) and a Pleasure Craft Operators Card.
  - Crew on the vessel must have a M.E.D. A3 classification.
  - The vessel has to be commercially registered.
- To operate a vessel over 5 tons or approximately over 8 metres, the following is required:
  - The operator must have a M.E.D. A3 classification or higher.
  - Crew on the vessel must have a M.E.D. A3 classification.
  - The vessel is to be commercially registered and have commercial equipment.

TRANSFER BETWEEN SMALL CRAFT / VESSELS IN OPEN WATER

1. Transferring between vessels/small craft while in open water is hazardous for even the most experienced of seafarers. In situations where two or more vessels are to be used for filming, it will always be preferable to have persons board at dockside, then travel and return separately to disembark at dockside.

2. Transfers can be physically demanding and should only be undertaken by persons with the fitness and agility to carry out the activity in a safe manner.

3. Transfers between vessels and small craft should only be undertaken with the supervision of the Ship's Master and should use a Pilot's ladder to allow safe and convenient access. Persons should have hands free to climb the ladder and be wearing an approved flotation device. Items that must be transferred shall be raised or lowered from the vessel with the higher freeboard, by rope and basket/bag.

WORKING IN EXTREME TEMPERATURE CONDITIONS

The following procedures are recommended for all work in extreme temperature conditions, both hot and cold, and are intended to assist employers, workers, and other workplace personnel in understanding the effects of extreme temperatures on the body, and to prevent any such effects in the workplace.

As a general consideration, all persons working in these situations need to be prepared for the possibility of bodily stress due to extreme heat or cold. Extra precautions are necessary to protect against these potentially hostile environments.

The greatest dangers are heat exhaustion or heat stroke and frostbite or hypothermia. Although weather and environmental conditions inside and outside present challenges to work, there is still a need to abide by the health and safety requirements set out in the Occupational Health and Safety Act and the applicable regulations.

THE LEGAL REQUIREMENTS

Employers have a duty under section 25(2)(h) and supervisors under section 27(2)(c) of the Occupational Health and Safety Act to take every precaution reasonable in the circumstances for the protection of a worker. This includes developing hot and cold environment policies and procedures to protect workers in hot and cold environments.

WORKING IN EXTREME HEAT

Working in extreme heat puts stress on a person's cooling system. When heat is combined with other stresses such as hard physical work, loss of fluids, fatigue or some medical conditions, it may lead to heat-related illness, disability and even death.

Anybody working in extreme heat may face these risks. In Ontario, heat stress is usually a concern during the summer. This is especially true early in the season, when people are not used to the heat. It is important to understand the symptoms and take preventative measures against heat related stresses in order to function effectively in such conditions.

The employer should implement a heat stress prevention program that establishes:

1. **worker training** in the hazards, health effects and prevention of heat related illness;
2. **criteria or monitoring method** (e.g. acting on heat wave or alert notices by Environment Canada or calculating humidex from temperature and humidity measurements or WBGT measurements);
3. **a monitoring/sampling plan** (e.g. when, where and what to measure or monitor);

4. **responses or preventative measures** e.g. increase frequency of breaks, reduce the work pace and workload, avoid working in direct sunlight, schedule heavy work for cooler part of day, wear hat and sun screen outdoors, etc.;
5. **a water supply plan and encourages hydration** (e.g. at least 1 cup every 20 min.); and
6. **first aid and emergency responses**, including monitoring of worker symptoms, and investigating incidents of health related illnesses.

How We Cope With Heat

People are always generating heat and passing it to the environment. The harder a body is working, the more heat it has to lose. When the environment is hot, humid or has a source of radiant heat (i.e. a large lighting setup, a furnace, or the sun) a person must work harder to get rid of the heat. If the air is moving (for example from fans or wind) and it is cooler than the body temperature, it is easier for a person to pass heat to the environment.

Workers on medications or with pre-existing medical conditions may be more susceptible to heat stress. These workers should speak to their personal physicians about work in hot environments.

It should be noted that heat stroke is a medical emergency and as a result requires immediate medical attention (an ambulance should be called).

Other risk factors for developing heat strain besides medical conditions and certain medications are age, gender, past history of heat illness and use of PPE or heavy clothing such as costumes.

Working In Extreme Cold

Working in extreme cold may stress a person's heating system. When cold is combined with other stresses such as hard physical work, loss of fluids, fatigue or some medical conditions, it may lead to cold-related illness, disability and even death.

At very cold temperatures, the most serious concern is the risk of hypothermia or dangerous overcooling of the body. Another serious effect of cold exposure is frostbite or freezing of the exposed extremities such as fingers, toes, nose and ear lobes. Hypothermia could be fatal in the absence of immediate medical attention.

Warning signs of hypothermia can include complaints of nausea, fatigue, dizziness, irritability or euphoria. Workers can also experience pain in their extremities (hands, feet, ears, etc), and severe shivering. Workers should be moved to a heated shelter and seek medical advice when appropriate.

Workers on medications or with pre-existing medical conditions may be more susceptible to hypothermia or overcooling. These workers should speak to their personal physicians about work in cold environments.

The employer should implement a cold stress prevention program that establishes:

1. **worker training** in the hazards, health effects and prevention of cold related illness;
2. **criteria or monitoring method** (e.g. acting on wind chill warnings or cold alert notices by Environment Canada or measuring wind speed, and air temperature);
3. **a monitoring/sampling plan** (e.g. when, where and what to measure or monitor);
4. **responses or preventative measures** (e.g. dressing in proper layers of clothing, acclimatizing workers to working conditions and required protective clothing, establishing warm-up schedule, provide warm shelter, use buddy system, suitable equipment, pace of work to avoid sweating or low activity);
5. **a plan to provide warm sweet drinks and soups** (increases caloric intake and prevents dehydration which may increase risk of cold injury); and
6. **first aid and emergency responses**, including monitoring of worker symptoms, and investigating incidents of cold related illnesses.

NOTE: Please see Appendix C on Adverse Weather Conditions for symptoms, treatments, and preventing the physiological effects of working in extreme temperature conditions.

ADDITIONAL USEFUL REFERENCES

OHCOW (Occupational Health Clinics for Ontario Workers) Heat Stress Guide found at http://www.ohcow.on.ca/menuweb/HeatStressGuide.pdf which discusses how to use the Humidex.

References from CCOHS (Canadian Centre for Occupational Health and Safety) include:

- Working in Cold Environment ; and
  http://www.ccohs.ca/oshanswers/phys_agents/cold_working.html
- Cold Environments - Health Effects & First Aid
  http://www.ccohs.ca/oshanswers/phys_agents/cold_health.html

The Heat Stress Guideline from the Ontario Ministry of Labour found at:

- http://www.labour.gov.on.ca/english/hs/pubs/gl_heat.php

GUIDELINE NO. 34

LOCATION REQUIREMENTS

1. Adequate flush or chemical toilets with hand-washing facilities should be made available for the use of employees (crew/cast and extras) within easy access of their place of work. This is especially necessary for lunchroom set-ups or where food is served. Requirements for washrooms on construction projects are found in sections 29 and 30 of O. Reg. 213/91 and when Industrial Regulations apply in section 120 of Reg. 851.

2. An adequate supply of safe drinking water shall be kept readily accessible for cast and crew. Drinking water requirements are found in section 28 of O. Reg. 213/91 and in section 132 of Reg. 851.

3. Holding areas (where extras wait for their set call) should be properly heated and ventilated with suitable emergency escapes and seating capacity.

4. Cast and crew exposed to long hours in adverse exterior conditions (heat or cold stress) should be provided with appropriate items to combat such adverse conditions (i.e., temporary shelter, heated washroom facilities, temporary heating devices, hot shots, hot drinks, blankets, adequate fluids, etc.) See Appendix C.

5. The 1st Assistant Director should communicate the safety/emergency plan by either tailgate discussion or by call sheet, or both (see Safety Responsibilities and Duties, 1st Assistant Director).

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HAIR AND MAKE-UP

1. The term "Hairstylist" is a person holding a current Certificate of Qualification (licensed) by the Ministry of Training, Colleges & Universities (M.T.C.U.) only those persons holding a valid trade licence or inter-provincial red seal certificate shall be employed as a hairstylist (as per section 8 of O. Reg. 565/99 made under the Apprenticeship and Certification Act, 1998 (ACA)).

2. The Hairstylist/Make-up Artist should inform the people concerned of toxicity and possible health effects of products being used.

3. The Hairstylist/Make-up Artist should check with the Performer regarding sensitivities, allergies, skin reactions, etc.

4. It is the responsibility of the Performer to inform the Hairstylist/Make-up Artist of all known sensitivities, allergies, skin reactions, communicable diseases, etc.

THE FACILITY

5. The hair and make-up room should:

   a) be clean;

   b) be maintained at a reasonable temperature;

   c) be well ventilated. The owner, or contractor of the building or vehicle is responsible to maintain air ventilation system(s);

   d) provide a hydraulic chair where possible. The importance of this requirement increases in direct relation to the duration of the production;

   e) have adequate lighting including both the interior and exterior of building location or vehicle, along with adequate lighting to all other vehicles or set;

   f) provide a first aid kit and a way to flush eyes with water if chemicals contact the eyes.

      NOTE: When Reg. 851 applies, an eyewash fountain is required as per section 124 of the Regulations. When portable eyewash is used it should be kept free of dirt and bacteria and completely refilled after each use.

   g) if located in a vehicle, the hair make-up facility should be level(ed) and, where possible, provided with hot and cold running water.

GUIDELINE NO. 35

HYGIENIC GUIDELINES

6. Hygienic safety requires the following practices:

   a) Provide hot and cold running water;

   b) Wash hands before and after attending each actor; the same applies with the use of gloves;

   c) Provide each Performer with individual sponges, powder puffs, combs and brushes. When transported, these items should be in a labelled contained bag which is sealed;

   d) Disinfect containers, razors, scissors, tweezers and spatulas before and after each use;

   e) Disinfect hairstyling combs and brushes with Barbercide, clean with soap, rinse with water;

   f) Keep all equipment clean and ready for use;

   g) Use one (1) mascara per person to prevent the spread of infections;

   h) Use spatula to remove make-up from compact. Mix on artist's tray, and then apply; and

   i) Update and replace old and stale make-up and hair products regularly.

7. Proper closed toe and preferably rubber soled footwear should be worn.

CHEMICAL GUIDELINES

8. The following recommendations apply when hair/make-up chemicals are used during production.

   a) Maintain an inventory of products used;

   b) Research the ingredients of these products to identify any potential health hazards (pay particular attention to routes of entry and dermal irritation);

   c) Clearly label all chemicals;

   d) Have Material Safety Data Sheets (MSDS) for each toxic chemical available for the user (refer to Guideline #2, Hazardous Materials and the WHMIS Regulation – Regulation 860);

   e) When involved in potentially hazardous activities such as the application of colours, hairsprays, mixing powder, bleaches and oxidizing chemicals, appropriate protective equipment such as face masks, goggles, gloves, etc., should be worn;

   f) Wherever possible use non-aerosol hairsprays.

g) Wherever possible use premixed powders;

h) Wherever possible use non-solvent materials such as isopropyl myristate for removing special effects make-up; and

i) No eating, drinking or smoking while chemicals are being handled.

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GUIDELINE NO. 36

MULTIPLE DRESSING ROOMS

1. The Driver/Operator play an important role in maintaining a high degree of safety while these units are in use, and are expected to meet high standards of competency. A qualified person should be present while such units are in operation. Prior to operation, all drivers should perform a circle check of the vehicle and address any concerns immediately.

2. Generator exhausts should be elevated a minimum of one (1) metre (three feet) above the floor level and vented to the outside at all times.

3. Skirts or other downward projections encircling the unit should not be closer than one foot from the ground.

4. All portable electric heaters should be equipped with safety tip-over switches. Such heaters should be installed only on a temporary basis during extremely cold weather, or if the permanently installed heater malfunctions.

5. A single handrail or grab bar should be installed where the floor is over one (1) metre (three feet) high.

6. A vehicle or a generator shall be shut down before fuelling (as per section 61(b) of Reg. 851). Particular caution should be exercised when priming a carburetor. Fuelling shall be done in a safe manner outdoors as required by section 61(a) of Reg. 851.

7. No anti-freeze shall be added to the potable water tanks.

8. All steps should be stable, slip proof and constructed securely. All steps must be cleared of ice, snow and refuse as required by section 11 of Reg. 851. Substitutes (i.e., concrete blocks, boxes, dairy or vegetable crates, etc.) should not be used as steps.

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CRAFT SERVICES AND FOOD CATERING

Reference should be made to the legal requirements in Food Premises Regulation (Reg. 562) made under the Health Protection and Promotion Act. The following are guidelines which discuss some of the requirements in Reg. 562.

Persons who are ill with contagious or infectious diseases shall not prepare or serve food, so as to prevent the spread of infection.

The food handler shall not have hand/skin lesions, and/or must wear clean latex or rubber gloves.

Hands shall be washed thoroughly and/or gloves changed before, after and between:

- each food preparation;
- handling raw and cooked foods;
- taking out the garbage;
- cleaning;
- using the washroom;
- sneezing, coughing, etc.;
- smoking; and
- before and after breaks

Clean clothes shall be worn. Personal hygiene and cleanliness can reduce the potential spread of disease/ illness. Clothing should not be used to wipe or dry hands, food or utensils.

Hair must be tied back, and/or in a hat, cap or net. Facial hair should be trimmed and clean.

Enclosed, non-slip rubber soled footwear should be worn at all times.

EQUIPMENT / WORK AREA

All sinks should be equipped with hot and cold running water under pressure and should be kept clean. The hand washing sinks and equipment/dish washing sinks must be separated. The hand washing sinks must be properly supplied with soap in a dispenser and single service paper towels. The 2 or 3 compartment sinks for equipment and utensil washing must not be used for hand washing. The sinks must be properly supplied with detergent and a sanitizing agent to sanitize the equipment and utensils in the last sink.

Hand, dish soap and cleaning products must also be provided, labeled, and stored in a separate area from food.

GUIDELINE NO. 37

The food facility should be inspected, maintained clean and free of grease accumulation, dirt, debris, rodent/insect infestation and spillage.

Multi–use plates and utensils shall be washed with hot water and soap and sanitized with an appropriate sanitizer. Pets shall not be allowed on or near any food service area.

Single service utensils shall not be re-used.

FOOD HANDLING

Food that is held at improper temperatures becomes a breeding ground for a multitude of illness causing bacteria. These foods should be discarded after the first serving, and should never be re-served.

Food can quickly become contaminated if it is not kept at proper temperatures.

Food must be cooked to the minimum cooking temperatures specified in Reg. 562 (Food Premises) made under the Health Protection and Promotion Act. Hot food must be served and stored at 60°C (140°F) or higher at all times.

Refrigeration and cold food must be maintained at 4°C (41°F) or lower at all times.

The freezer shall be kept at –18°C (0°F).

Potentially hazardous foods include protein or dairy products with a pH between 4 and 9. These include meat, fish, and poultry, cream sauces, salad dressings, egg, potato, macaroni salad, stews, cream pastries, pies, puddings and custards, etc. These potentially hazardous foods either displayed or stored at temperatures between 4°C (41°F) – 60°C (140°F) shall not to be served.

When handling food, consider the following:

a) All refrigerators should be equipped with thermometers and should be checked regularly to assure proper temperatures;

b) Metal probe food thermometers should be available for checking food temperatures;

c) Hot food such as stews, soups and meat pies that are cooked in bulk containers should be transferred to shallow containers (max.4" deep) for storage and stirred during cooling to assure proper cooling throughout;

d) Foods should be covered at all times in storage, to prevent cross contamination;

e) Frozen foods should be defrosted in a refrigerator, under running water, or in a microwave; and

f) Foods such as pork, fish and poultry must be cooked thoroughly to prevent any contamination (i.e. salmonella).

Any problems or concerns regarding safe food handling and enforcement thereof should be directed to the local Public Health Department.

GUIDELINE NO. 38

CARPENTRY / WOODWORKING

There are specific requirements in the Regulation for Industrial Establishments (Reg. 851) and Regulation for Construction Projects (O. Reg. 213/91) made under the Occupational Health and Safety Act that apply to many of the hazards mentioned in this guideline (e.g. machine guarding and lockout).

GENERAL PRECAUTIONS

1. Be aware of and follow all Municipal, Provincial and Federal codes, legislation and regulations.
2. Inspect all equipment before using.
3. Keep all equipment in good repair.
4. DO NOT REMOVE safety shields/devices.
5. Wear/use approved protective equipment at all times.
6. Remove rings, watches and loose clothing; suitably confine long hair.
7. Inspect work area for unsafe conditions, and remedy before beginning work.
8. Keep work areas in a clean and safe condition.
9. Follow all lockout/tag-out procedures as required.

HAND TOOLS

1. Keep all hand tools clean, sharp and in good repair.
2. Use all hand tools for the purpose for which they were intended (i.e. a screwdriver is not a chisel and vice-versa).
3. Do not carry sharp/pointed objects in pockets.

POWER TOOLS

1. Make all adjustments and tighten all locking devices before attaching tool to power supply.
2. Make sure tool is switched off before connecting to power supply.

3. Use a grounded outlet, grounded extension cords, and/or a Ground Fault Circuit Interrupter.

4. Operate all tools with all safety guards in place.

5. Use fence/guide, push-stick, appropriately.

6. Maintain appropriate safety margin between cutting edge and hands.

7. Keep blades/bits, etc. sharp.

8. Keep the tool and surrounding work area in a clean and safe condition.

9. Follow Manufacturer's maintenance instructions.

10. Handle all air-actuated devices with extreme caution.

11. Never carry a tool by the cord or hose.

12. Never yank the cord or the hose to disconnect it from the receptacle.

13. Keep cords and hoses away from heat, oil, and sharp edges.

14. Disconnect tools when not using them, before servicing and cleaning them, and when changing accessories such as blades, bits, and cutters.

15. Secure work with clamps or a vise, freeing both hands to operate the tool.

16. Avoid accidental starting. Do not hold fingers on the switch button while carrying a plugged-in tool.

17. Be sure to keep good footing and maintain good balance when operating power tools.

EXPLOSIVE-ACTUATED FASTENING TOOLS

The Regulations for Industrial Establishments (Reg. 851) in sections 36 and 37 and the Regulation for Construction Projects (O. Reg. 213/91) in sections 117-121 specify safe operating procedures for explosive-actuated fastening tools.

1. One of the important factors in achieving safe, satisfactory use of explosive-actuated fastening systems is operator training. Only trained and competent operators shall use explosive-actuated tools.

2. All operators shall wear appropriate personal protection equipment (PPE) (i.e. eye and ear protection and/or face shields).

3. CSA Z166.1 (Power Actuated Tools – Performance Requirements) and CSA Z166.2 (Power Actuated Tools – Use and Handling) contain useful information about safe operation and maintenance of explosive-actuated tools.

4. Do not use a tool in an explosive or flammable atmosphere.

5. Inspect the tool before using it to determine that it is clean, that all moving parts operate freely, and that the barrel is free from obstructions and has the proper shield, guard, and attachments recommended by the manufacturer.

6. Do not load the tool unless it is to be used immediately.

7. Do not leave a loaded tool unattended, especially where it would be available to unauthorized persons.

8. Keep hands clear of the barrel end.

9. Never point the tool at anyone.

FIREARMS

All pertinent federal and provincial laws and regulations should be complied with when transporting and handling weapons/ammunition/powder. Please note that for the purpose of this guideline, the words "gun" and "weapon" may be considered interchangeable.

1. Guns are dangerous and should be treated as loaded at all times.

2. Live ammunition should NEVER be used.

3. A gun should not be pointed at anyone, including the user, under any circumstances, especially those loaded with blank ammunition.

4. Never indulge in horseplay while in charge of, or responsible for, any weapon.

5. A "No Smoking" rule should apply to any area where ammunition or powder is stored, and signs to this effect should be posted.

6. All weapons on a set should be in the care and charge of the designated handler (Weapons Handler) who should be:

    a) in possession of a valid Firearms Acquisition Certificate, a Permit to Carry a Restricted Weapon, and a Weapons Specialist Permit (for use in the motion picture industry under Firearm Act);

    b) be familiar with any weapons being used, and their safety requirements;

    c) be familiar with the loading and unloading procedures for such weapons; and

    d) be familiar with the applicable laws and regulations concerning the handling, transportation and storing of any blank ammunition, powder, etc., which may be required.

    NOTE: A restricted weapon is one which has been manufactured to fire live ammunition. A restricted weapon which has been modified by a qualified Gunsmith is still a restricted weapon. The Firearms Act requires every restricted weapon owner to have a license or valid Firearms Acquisition Certificate. A firearm which has been manufactured to fire blanks only is not a restricted firearm but should be treated as if it was.

7. Practical weapons should not be used where a replica would suffice.

8. Only a gun that has been manufactured for this purpose, and built accordingly by qualified personnel, should be used to fire a charge.

9. No gun that is to be fired should be modified in any way, unless this has been done by a qualified Gunsmith with the approval of the manufacturer.

10. No gun should be modified except as described in No. 9.

11. The Handler is to be responsible for:

    a) Checking weapons before and after each use;

    b) Cleaning the weapons daily;

    c) Keeping a daily inventory of weapons in their care; and

    d) Making sure that any legal requirements regarding the storage and use of weapons and ammunition are complied with at all times. The Firearms Act and its related regulations govern the possession, transport, use and storage of firearms in Canada.

12. Never fire a gun with dirt, sand or any unapproved blockage in the barrel. Never put a weapon down in such a way that dirt or sand might cause blockage.

    In the event of a misfire or jam, no one other than the Handler should attempt any remedy. If the Handler is unsure as to what is causing the problem, the weapon should be taken out of use until such time as the cause can be determined. The weapon should not be used again until the Handler informs the Director or Producer that it is safe to do so.

HANDLING OF GUNS ON SET

13. Any gun brought onto the set should be registered with, and placed in the care of, the Handler.

    a) Any gun not immediately required on set should be secured under lock and key by the Handler.

    b) Guns should be removed from Actors or Stunt People between takes wherever possible and kept in a safe place.

14. The Handler should be allowed time to fulfill the following:

    a) To discuss with the Directors and Assistant Directors how any weapons might be used in a particular scene;

    b) To point out any safety requirements needed; and

    c) To make sure that any Actor or Stunt Person using the weapons is fully aware of the safety rules for the handling and firing of such weapons.

NOTE: No crew or other "off camera" personnel should be in the vicinity of a gun being fired without the minimum protection of safety goggles and ear plugs. A shatterproof clear plastic shield should be placed between any camera crew and a fired weapon which is directed toward or in the direction of the camera.

15. It should be the responsibility of only the Handler to load and unload weapons. If this is unreasonable, e.g., in the case of large numbers, then the Handler may designate assistants to assist, under his or her supervision, the handling, loading and unloading of weapons.

    NOTE: These assistants should be chosen only by the Handler who should have adequate time to familiarize them with the procedures expected of them and the safe handling of the weapons and ammunition in question.

16. Only the appropriate type of blank ammunition should be used. Ammunition made specifically for theatrical use should be obtained in the correct load for the effect required.

    a) In the event that crimped blanks (sometimes referred to as "acorn" blanks because they look like small acorns) are used they should only be commercially manufactured and never reloaded. When crimped blanks are used consideration should be given to the following safety precautions:

       (i) shatterproof clear plastic shield;

       (ii) eye and ear protection; and

       (iii)sound blankets over camera, operator and focus puller.

    b) Shot gun popper loads or dog training loads should not be used as they may contain wads that become projectiles and may cause injury. Only those blanks specifically designed for use in motion picture production should be used.

    c) Factory loaded ammunition should never be tampered with.

    d) Any safety guidelines or specifications, laid out in handbooks supplied by the manufacturer of a weapon, should be made known to and must be adhered to by all concerned.

17. The crew and other personnel on set should be warned prior to any weapons being fired.

18. This guideline should be attached to or noted in the safety section of the Call Sheet when a script requires weapons to be fired on set.

19. If a firearm needs to be fired directly at a camera consideration should be given to locking off the camera. A shatterproof clear plastic shield should be placed in front of the focus puller and blanket over camera person.

20. Any of the firearms that eject a spent casing should be tested to determine the angle of discharge of the spent casing. Make sure all unnecessary people are cleared from the area of the discharge. When actors, cameras or crews must be in the area where casings will be traveling, ensure that they are all at a safe distance or shielded from the firearm.

21. Check with local municipalities to see if there is a requirement for an Emergency Task Force Explosive Disposal Unit (ETF) to be present. The Toronto Film Commissioner requires film companies to be supervised by ETF Technicians as part of the permit to have gun fire.

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ANIMAL HANDLING

The safety of working animals and the persons working with such animals should be a primary concern. This guideline is intended as safety recommendations for the cast and crew on a production when working with or around animals. Specific regulations regarding animal safety and care can be found in other sources. The American Humane Association (AHA) guidelines are not in force in Canada, but are generally accepted and observed by the Ontario Society for the Prevention of Cruelty to Animals (SPCA), in the absence of equivalent domestic guidelines.

1. Only designated Performers, Professional Trainers, Handlers and/or Wranglers should be allowed to work with animals on productions. Anyone not directly involved in the action involving the animals should NOT distract the animals. It is recommended that enough Wranglers be used to ensure that safe control of animals is maintained (i.e. 1 Wrangler/3 action horses). For each large undomesticated animal, such as a large cat or carnivore (mountain cat or larger) there should be two (2) handlers present.

2. Notice advising that animals are working should be given on the call sheet prior to shooting. A "closed set" notice should be posted on all stages or locations, where animals are working and every effort should be made to maintain a closed set on locations where animals are working.

3. An easily accessible area should be available for loading and unloading animals. Horses should always be given a clear path to their holding area. The Assistant Directors should clear the set of all animals FIRST, at lunch break or wrap, at which point people will then be cleared.

4. Once on set, at the animal handler's discretion, all non essential personnel with the exception of any Ontario SPCA representative(s), should be removed from the set during animal stunts or animal action, or whenever wild or exotic animals are performing.

5. Cast and crew will not be allowed to pet, fondle or play with animals off camera, if the handler or Ontario SPCA representative believes it is not in the best interest of the animal, or believes it is unsafe.

6. As necessary for the concentration and safety of the animals, cast and crew should limit distracting motion, noise or smells, such as food, perfume or alcohol. In some cases, Craft services may need to be moved away from the animal action. Animal Handlers should provide the Producer and the Ontario SPCA representative with written pertinent instructions for each species and/or individual animal, as appropriate. These instructions should be attached to the call sheet.

7. An opportunity should be given to the trainer and Stunt Coordinator to address the cast and crew (including the parents or guardians of any children on the set) about safety precautions while animals are on the set. Safety precautions such as, but not limited to, maintaining a safe distance from wild or exotic animals, no personal pets, no feeding, no running and provisions for escape routes may be included. In the opinion of some trainers, the presence of menstruating women may cause reaction from animals such as large cats. The Trainer/Handler should be consulted in that regard.

8. The Trainer or person supplying the animal(s) is responsible for obtaining all necessary inoculations, permits, applicable licenses and medical safeguards.

9. The Trainer and/or Wrangler shall ensure that all animals required to work in a film/set location are well prepared for such situations. The Trainer/Wrangler should train and acclimatize the animals to filming conditions and be satisfied that the animals will perform in a manner conducive to the safety of the cast, crew and general public.

10. Where animals and Performers are working together in a scene which is deemed a stunt or dangerous situation, ample time should be given to allow the Handler, Stunt Coordinator, and the animals to become familiar with the routine and each other.

11. When an animal on set poses a potential hazard (horses, livestock, etc.), there should be a qualified first aid provider on set. Depending on the types of animals being used and the filming location, consideration should be given to providing onsite emergency medical transportation, with qualified medical personnel, up to and including life support, as necessary.

12. Equipment operated in conjunction with working animals should be in a safe operating condition as determined by the Trainer/Wrangler in conjunction with the property master. Basic animal safety equipment such as fire extinguishers, fire hoses and nets should be readily available.

13. All firearms, ammunition or explosives safety guidelines set out elsewhere in this document should be observed. Live ammunition should not be allowed on set. Only blank ammunition should be used. The level of blank ammunition loads and explosives should be determined in consultation with the Trainer or Wrangler, or both where necessary, and the firearms expert. All Trainers/Wranglers should be given notice prior to shots being fired or the detonation of explosions around performing animals

14. The Canadian Federation of Humane Societies' (CFHS) position statement on the use of animals in entertainment opposes the administration of any drug for non-therapeutic purposes in order to alter the performance or behaviours of animals. Tranquillization or sedation of performing animals should be accomplished only where circumstances warrant, upon the advice of the trainer or qualified veterinarian.

    a) Some animals, such as reptiles should never be sedated. If appropriate, advice should be sought from a qualified trainer or veterinarian.

    b) Tranquillizers should not be used for the purpose of "calming" performing animals. A tranquilized animal is unpredictable.

    c) As a safety backup, consideration should be given to the availability of tranquilizing equipment. Potentially dangerous or complicated animal action should warrant the presence of a qualified veterinarian.

15. On any set, stage or location, best efforts shall be made to secure scenery and props where animals will perform. Objects such as ladders or pedestals that easily tip over can startle animals.

16. When using horses on set:

    a) Horses being used on a production should be properly shod for the working surface (e.g. borium, rubber shoes, etc.)

    b) All hitch rails should be fastened in the ground so that the tugging of a frightened horse cannot pull it loose (i.e. sleeve installation). On a stage, hitch rails should be bolted or fastened in a rigid manner.

    c) Under no circumstances should horse falls be accomplished by tripping or pitfalls.

    d) No one should ride horses "off camera" except for those designated by the Trainer/Wranglers.

    e) Under no circumstances should spurs be worn by any Actor or Extra without the prior approvals of the Stunt Coordinator and or the Trainer/Wrangler.

17. Helicopters should remain at least fifty (50) feet away from any animal. Please also refer to Guideline #27, Helicopters.

18. In productions involving large numbers of animals (e.g. historic re-enactments), a responsible "chain of command" should be established to coordinate the work during the production. The designated "commander" (appointed by the Producer) of each unit should be directly responsible for the conduct of the people and the care of the horse/livestock under his or her care.

GUIDELINE NO. 40

19. *Animal actors brought to a location can be affected by indigenous pests; this* could range from distraction to life threatening situations or the transmittal of diseases between pests and animals. Notification of the potential existence of indigenous pests in the area being filmed should be provided to the Trainer/Wrangler/Supplier of animal actors.

For more information on animal handling or specific guidelines on animal safety in film and television production, please consult an organization such as the Ontario Society for the Prevention of Cruelty to Animals (SPCA) or the American Humane Association (AHA). Please also refer to Guideline #41, Indigenous Pests and Guideline #42, Exotic Animals for additional recommendations.

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INDIGENOUS PESTS

The following are guidelines for working in areas where indigenous pests are present.

1. Special safety consideration must be given when working on locations where various indigenous pests may be present. The types of pests may vary from region to region, however basic safeguards should be taken to prevent serious injury or illness to cast and crew.

2. Indigenous pests include but are not limited to: ants, ticks, stinging flying insects (bees, wasps, hornets), biting insects (mosquitoes, flies), chiggers, arachnids (various spiders), native snakes, exotic marine life, rodents.

3. Safety consideration should be given to cast and crew and also to the indigenous pests in the area being filmed. The Production Company is responsible for ensuring the safety of wildlife that is removed from the area and animals that remain on the location/set. The Production Company may not harm and should take precautionary measures to protect nests, dens, caves, caverns, etc.

4. Only qualified and trained personnel with the appropriate equipment should remove indigenous pests, wildlife or habitat from the filming area. Upon completion of filming, any animals removed should be safely returned.

5. Contact should be made with the appropriate Federal, Provincial or Municipal wildlife authorities to confirm the type and status of animals in the area and the effect that such wildlife would have on humans and animals if contact is made.

6. When working in an area where there is the potential of encountering indigenous pests, appropriate clothing should be worn (i.e. long pants, shirts, in light colours). Avoid wearing heavy perfumes or aftershave. Apply repellents directly to clothing.

7. If a pesticide is being used to control indigenous pests, follow the manufacturer's instructions. Check the product label and/or Material Safety Data Sheet (MSDS) before applying the product or entering the area. Allow time for dissipation prior to using a treated area. The MSDS must be available to all cast and crew upon request (as per Reg. 860). Personal protective equipment (PPE) should be properly used (as per 25(1)(d) of OHSA).

8. It is recommended that cast and crew notify the set medical/safety personnel of any known allergies prior to or upon arrival at the location. If bitten or stung by an indigenous pest, contact the set medic immediately or contact 911, if life threatening. Persons with known allergies to insect bites should carry Epi-pens and have medic alerts.

9. Animal actors brought to a location can be affected by indigenous pests; this could range from distraction to the transmittal of diseases. Notification of the potential existence of indigenous pests in the area being filmed should be provided to the Trainer/Wrangler/Supplier of animal actors.

10. Special precautions are required to protect against West Nile Virus and other animal diseases that may be transmitted to humans. These include zoonotic diseases or zoonoses, such as Hanta virus (deer mice), Lyme disease (ticks), rabies and racoon round worm (also known as Baylisascaris procyonis). The websites listed at the end of this guideline provide assistance in developing safety precautions to deal with these diseases.

For more information on indigenous pests or specific guidelines on animal safety in film and television production, please consult an organization such as the Ontario Society for the Prevention of Cruelty to Animals (SPCA) or the American Humane Association (AHA). Please also refer to Guideline #40, Animal Handling and Guideline #42, Exotic Animals for additional recommendations.

Websites dealing with Precautions for Diseases of Animals Transmitted to Humans

- Public Health agency of Canada has an infectious diseases website which has a section on Foodborne, Waterborne and Zoonotic Infections http://www.phac-aspc.gc.ca/id-mi/index.html
- MOL's FAQ: West Nile Virus http://www.labour.gov.on.ca/english/hs/faqs/wnv.php
- CCOHS website http://www.ccohs.ca.

EXOTIC ANIMALS

1. These guidelines are intended as safety recommendations for the cast and crew on a production when working with or around exotic animals. Specific regulations regarding animal safety and care can be found in other sources. The American Humane Association (AHA) guidelines are not in force in Canada, but are generally accepted and observed by the Ontario Society for the Prevention of Cruelty to Animals (SPCA), in the absence of equivalent domestic guidelines.

2. When potentially dangerous exotic animals are on set, the Animal Handler should provide the Producer with information instructing the cast and crew on how to behave in the presence of such animals. The information should be attached to the call sheet and must be conveyed to all persons working with or near exotic animals.

3. Children should only be near potentially dangerous exotic animals while rehearsing or filming in a controlled environment monitored by an Animal Handler.

4. When not on set and whenever possible, a quiet, private area should be provided to exotic animals. Smaller exotic animals should have a separate room that is temperature controlled when necessary. Larger exotic animals should be provided a separate sheltered area where cast and crew are prohibited from visiting.

5. A plan should be in place to prevent the escape of any wild or exotic animals and to safely recapture them, without harm to the animal, should they escape.

INSECTS AND ARACHNIDS

1. Nothing should be done to an insect that would cause it permanent harm or permanently alter its physical characteristics or behaviour.

2. When using insects, an Animal Handler knowledgeable of the particular insect(s) should be on set.

3. Care should be taken to assure the collection of all insects used. No insect should be allowed to remain on the set or the location. Particular care should be taken when using an insect species that is not indigenous to the area.

4. When insects are brought on set for filming, to the extent possible, precautions should be taken to minimize the number of insect that fly into the lights.

GUIDELINE NO. 42

APES AND MONKEYS

1. Stages, sets and locations should be checked by the Animal Handler for escape routes and potential hazards. Because apes and monkeys can quickly climb heights and are capable of opening and closing doors, drawers and other objects, any products containing harmful chemicals or sharp items should be removed from the area. Props used on set should be checked by the Animal Handler.

2. Human contact with apes and monkeys should be limited to those persons necessary for filming. People with colds or other contagious viruses should remain at a distance from apes or monkeys.

3. When apes are used in productions for two (2) or more consecutive days, care should be taken to ensure adequate rest. Animal Handlers should know each animal's capabilities for dealing with work loads.

4. When an ape is working on a set for more than three (3) consecutive full days (six or more hours per day) a play area, empty room or private park where the ape can relax and exercise should be provided.

5. Apes should not work after sundown. If they do, it should only occur when the ape has been conditioned to work after sundown.

6. Clothes used on apes should be loose fitting, easy to take on or off (Velcro is preferred), and should not obstruct the ape's ability to walk, hear or see.

7. Prior to filming, apes should be introduced to characters or moving objects that are frightening or otherwise unnatural. For example apes should be familiar with any animatronic objects or costumed persons such as clowns or beasts.

8. Sets and locations should be kept cool around apes. Apes should not be on set for reasons other than filming, rehearsing, preparing, or otherwise becoming familiar with objects, persons, or other animals that will be in the scene. Apes should not be used as stand-ins or for lighting adjustments.

REPTILES

1. When using snakes and other animals in the same scene, care should be taken to protect the safety of both the snakes and the other animals. Each should be accustomed to being around the other.

2. Extreme caution should be taken when using exotic venomous reptiles. When venomous snakes are used with other animals or actors, safety precautions should be used for the welfare of all concerned. These precautions may include the use of barrier glass, the use of professional snake wranglers as stunt people, or if necessary, the mouth of the venomous snake may be sutured. Only personnel essential to the scene should be allowed within a fifty (50) metre distance of the reptile. Proper protection (i.e. barriers, gloves, adequate leg guards) for cast and crew who have to work closely with the reptile should be provided.

3. The proper antidote (anti-venom) should be selected depending upon the type of reptile. Location of the antidote should be printed on the call sheet. When a live venomous reptile is to be used in close proximity to personnel, and the hazard exists that someone may be bitten, the proper anti-venom serum should be available. A medical attendant, qualified to perform injections and trained in the procedures of administering anti-venoms, should also be available on the set.

4. In the event that suturing (closing of vomeronasal ducts) of venomous snakes is necessary, it should be done only by experienced snake handlers accustomed to the procedure. Such action should be approved in advance by the appropriate authorities and meet the following requirements:

    a) A topical application of a local anesthetic must be applied to the affected area prior to suturing.

    b) Sutures may not remain in the snake for more than 72 hours.

    c) When sutures are removed, antibiotics must be applied to the affected area.

5. Under no circumstances can the fangs of snakes be pulled. Snake fangs may be cut only when necessary for suturing a venomous snake. Snakes may not be milked.

6. Carbon dioxide or dry ice should not be used around snakes or other reptiles.

WILDLIFE

1. It is the Producer's responsibility to assure the safety of the natural animals in the filming area, and to consult the agency or persons responsible for the removal of wildlife from location sets. Any native animals that remain on the set are subject to the applicable animal safety guidelines and procedures. If native animals are not to remain on the set, they should be carefully removed, relocated, properly housed and cared for, then safely returned to their habitat after filming.

GUIDELINE NO. 42

2. The Production Company should not intentionally harm, and should take precautionary measures to protect nests, dens, caves, caverns, etc. Care should be taken to ensure that non indigenous animals are removed from the area after production.

3. Exotic animals brought to a location can be affected by indigenous pests; this could range from distraction to life threatening situations or the transmittal of diseases between pests and animals. Notification should be provided to the trainer/wrangler/supplier of animal actors of the potential of indigenous pests in the area being filmed.

4. For more information on exotic animals or specific guidelines on animal safety in film and television production, please consult an organization such as the Ontario Society for the Prevention of Cruelty to Animals (SPCA) or the American Humane Association (AHA). Please also refer to Guideline #40, Animal Handling and Guideline #41, Indigenous Pests for additional recommendations.

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INDUSTRIAL AND CONSTRUCTION REGULATIONS

This guideline is intended to assist workers, owners, constructors, employers and producers in film and television to understand when the Industrial and/or Construction regulations may apply to their workplace(s). Refer to legislation and Regulations for legal requirements.

CONSTRUCTION REGULATION

The Regulation for Construction Projects, Ontario Regulation 213/91, applies to all construction projects, as defined by the Occupational Health and Safety Act (OHSA), which may include the installation of sets and stages for film and television productions.

Under the OHSA, an inspector may issue orders for compliance with the Regulation if violations are found with respect to the installation/erection and removal of stages, set, sound systems and lighting systems for film and television productions.

Examples where Construction Regulation applies:

- The installation of a stage or a film set, which may involve the erection of a scaffold system to support the stage or film set;
- The assembling of sets at a filming location; and
- The installation of the structure to support the lighting for the film set.

NOTE: Most film sets from initial set-up to tear down are completed within a few days.

The notice requirements in section 6 of the Regulation for Construction Projects apply if the total cost of the labour and material for the project is expected to exceed $50,000.

For the above examples, section 6(4) of the Regulation for Construction Projects would apply if the project will not take more than 14 days. In these cases the constructor, may provide the relevant information to an inspector at the Ministry office located nearest to the project:

a) by faxing the completed form to the inspector, or

b) by providing the information that would be required to complete the form to the inspector by telephone.

For projects where the set-up of the stages and sets exceeds 14 days, then subsection 6(3) of the Regulation for Construction Projects applies. In this case the constructor should complete an approved notification form and file it at the Ministry office located nearest to the project.

INDUSTRIAL REGULATION

The Regulation for Industrial Establishments, Regulation 851, applies to all industrial establishments as defined by the Occupational Health and Safety Act. This includes any establishment where the moving of pre-constructed sets or stages, and the manufacturing of those sets prior to being transported to the venue, is being performed.

Under the OHSA, an inspector may issue orders for compliance with the Regulation if violations are found while filming is in progress in an industrial establishment. In addition, inspectors may also issue orders for compliance if violations are found while moving pre-constructed sets or stages related to an on-going production.

Example where Industrial Regulations applies:

- The manufacturing of sets in a shop prior to being transported to the filming location.

APPENDICES

APPENDIX A: DEPARTMENT HEADS
(as per SAFETY RESPONSIBILITIES AND DUTIES)

Given the nature of filmmaking, some Workers, particularly Department Heads and those in a creative position can impact not only the location of production but also can impact how a production set is structured and run. Where a worker has the ability to influence the working conditions of workers in general, a heightened awareness of health and safety issues must prevail and should ensure that all appropriate safeguards are in place.

Though not exhaustive, the listing of Department Heads given below, 'typically engaged' on film and television production(s), is an attempt to list those who may have an ability to influence the working conditions (which may amount to directing work) of workers generally or within their department.

Note: An Ontario Ministry of Labour Inspector may find those who direct work to be supervisors under the Occupational Health and Safety Act. This determination will be based on the specific facts of the situation, and may or may not be consistent with the reporting structure or the collective agreements which exist.

Under the OHSA, a supervisor must carry out certain duties including:

- Ensuring that a worker complies with the OHSA and regulations [section 27(1)(a)];
- Ensuring that any equipment, protective device or clothing required by the employer is used or worn by the worker [section 27(1)(b)];
- Advising a worker of any potential or actual health or safety dangers known by the supervisor [section 27(2)(a)];
- If prescribed, provide a worker with written instructions about the measures and procedures to be taken for the worker's protection [section 27(2)(b)]; and
- Take every precaution reasonable in the circumstances for the protection of a worker [section 27(2)(c)].

The regulations under the OHSA, if applicable, contain additional duties of supervisors. Supervisors who have been convicted for an offence of failing to comply with their duties under the OHSA or for a contravention of the OHSA and its regulations may be subject to the penalties set out in section 66 of the OHSA, which may include fines of up to $25,000 and terms of imprisonment of up to twelve months, or both.

Department Heads:

Art Director
Camera Operator
Construction Coordinator
Costume Designer
Craftservice Provider
Editor
Gaffer
Key Greens

Key Grip
Head of the Hair Department
Honeywagon Operator
Lighting Director
Make-up Department Head
Production Accountant
Production Coordinator
Production Designer
Property Master
Script Supervisor
Key Scenic Painter
Set Decorator
Sound Recordist/Mixer
Special Effects Coordinator
Technical Director
Transportation Coordinator

APPENDIX B: ELECTRICAL SAFETY

In addition to Guideline #12 Electrical Safety, please also consult Electrical Safety Authority (ESA) Spec 003-04 entitled: Electrical Guidelines for Entertainment Industry, as well as a current copy of the Ontario Electrical Safety Code, plus the safety requirements in the OHSA and its regulations.

1. DEFINITIONS

The definitions which have not been taken from the Ontario Electrical Safety Code or ESA are provided for convenience only and should not be interpreted to have legal significance.

1.1 Apple Box: A non-conducting rectangular structure used to support electrical equipment, lighting stands, and other production equipment. Used as a building block to accommodate varying elevations on the set. Commonly made of varnished plywood. Typical dimensions are 18" x 12" and:

Full	9.0"	High
Half	4.5"	High
Third	3.0"	High
Quarter	2.25"	High

1.2 Ballast: A resistor, transformer or electronic circuit used to limit the current to a discharge type of light source. Typically used with fluorescent tubes, HID, HMI, fixtures, etc.

1.3 Best Boy: Technician in charge of designing, setting up, supervising and taking down, a temporary power distribution system for film or video production. May supervise a crew on larger productions. Reports to Gaffer or Lighting Director.

1.4 CAM-LOK™: A standard series of single pin electrical connectors (Ball Nose) commonly used with single conductor cable for temporary power distribution system. Other configurations of this connector not compatible and not commonly used are "J", and "Posi-Lok". Refer to Table 2 for standard connector configurations.

1.5 CSA: The Canadian Standards Association sets standards for safe construction of electrical equipment. It also inspects and identifies equipment that meets the standards. Electrical equipment connected to the electrical utility distribution network must, according to the Canadian Electrical Code, be approved by CSA or Electrical Safety Authority (ESA). CSA or ESA labels affixed to electrical equipment confirm to the user the compliance with local regulations.

1.6 Canadian Electrical Code: The standard for temporary or permanent electrical installations in Ontario is CSA C22.1 Part 1. The local electrical

utility has the right to enter any premises which use electrical power supplied by that utility, and to shut down any equipment or systems which do not comply with the Code, and which present a hazard to the public.

1.7 Competent: One qualified by knowledge, training and experience to perform assigned work, and has knowledge of any potential or actual danger to health and safety in the workplace. See also definitions of competent person in section 1 of OHSA and competent worker in section 1 of O. Reg. 213/01.

1.8 Electrical Distribution Box: A device which permits the branching of power to two or more loads or additional distribution boxes. Usually consists of breakers or fuses feeding 120V, single phase, female connectors (line, neutral and ground). Per Table 1.

1.9 Electrician: Certified under the Trades Qualifications and Apprenticeship Act to do electrical work, or a person with equivalent qualifications by training and experience. (Refer to section 1.16 below)

1.10 Gaffer/Lighting Director: The head of the lighting department for a film or video production. May design lighting positions, establish choice of fixtures and accessories. Reports to the Director of Photography for film or Technical Director for video. (Refer to section 1.16 below).

1.11 Generator Operator: Technician in charge of setting up, starting, monitoring, balancing the load, and shutting down an electrical generator.

1.12 Grip: A technician who places and adjusts accessories which alter the quality and quantity of light. The Grip also assembles dolly track, scaffold, legs, etc., and handles the camera dolly during shoots. Supervisor or department head of a number of Grips is referred to as the "Key Grip".

1.13 Ground: A metal plate, rod, water pipe or other conductor buried or driven into the earth and providing an uninterrupted electrical path to earth.

1.14 Head: The light emitting section of a luminarie.

1.15 JoyTM : A trade name that has become generic. A brand of electrical connector employing low profile rubber moulded insulation and cylindrical pins, commonly used on a production set or in TV studios. The connector construction permits hard duty usage

1.16 Lighting Technician: Sets up and takes down power distribution systems (excluding tie-ins), lighting fixtures, etc., under the direct supervision of the Gaffer, Lighting Director or Technical Director on a video or film production set.

1.17 Luminaire: A lighting fixture consisting of a light source, socket, electrical wiring and connector, enclosure, and optionally, switch, reflectors(s), lens(es), ballast, supporting devices, and additional apparatus for altering

the quality, colour, and quantity of light emitted by the apparatus. Typical styles include Borderlight, Brute, Carbon Arc, Cyc (Laramie) Strip, Ellipsoidal Spotlight, Followspot, Fresnel, HMI, Inky, Par(can), Scoop, Soft (light), Space Light, Strip Light, Sungun, Tenner, Tweenie, etc.

2. GENERAL RULES

2.1 All electrical personnel shall have a basic understanding of electrical theory and power distribution.

2.2 Load connectors in Electric Distribution Boxes (Table 1) and Adaptors (Table 2) shall comply with section 14-100 of the Canadian Electrical Code Part 1.

2.3 The power supply to electrical installations, equipment or conductors shall be disconnected, locked out of service and tagged before any work is done, and while it is being done on or near live exposed parts of the installations, equipment or conductors (as per section 42(1) of Reg. 851).

2.4 When there is a hazard from electrical contact in wet locations, a ground fault circuit interrupter shall be installed at the receptacle or on the circuit at the panel (as per section 44.1 of Reg. 851 and section 190(4) of O. Reg. 213/91).

2.5 Consult the Ontario Hydro and EUSA Handbooks/Codes for technical support.

2.6 Care should be taken not to walk on or drive over electrical cables.

3.0 POWER SOURCES

3.0.2. Voltages and power distribution systems that may be encountered in Canada:

120/240	1 phase 3 wire
120/208	3 phase 4 wire "Y"
120/208	3 phase 3 wire "D"
277/480	Phase to ground/phase to phase on 480 volt 3 phase system
347/600	Phase to ground/phase to phase on 600 volt 3 phase system

3.0.3. A Gaffer or Best Boy may tie-in to electrical distribution systems up to 300 volts.

3.0.4. An Electrician should tie-in to all electrical distribution systems of 300 volts and higher.

3.1 DIESEL GENERATOR SOURCES

3.1.1 Generators shall be grounded as required by Rule 10 – 106 of the Ontario Electrical Safety Code (OESC).

3.1.2 Generators should have an emergency stop system.

3.1.3 All generators shall be operated and maintained by a properly trained operator as required by section 25(2)(a) of OHSA.

3.1.4 Ground Fault Indicators, if required by Rule 10 -106(2) of the OESC, should be readily visible to the operator or supplied with a suitable alarm.

3.1.5 Generators should only be started under no load conditions, and unless under an emergency condition, stopped under a no load condition.

3.1.6 The operator or competent assistant should supervise the generator at all times while it is running, and should be available to activate the emergency stop system.

3.2 UTILITY SOURCES

3.2.1 Ontario Electrical Safety Code requires a wiring permit to be taken out when a temporary wiring distribution system is to be set up. Section 44.100.

3.2.2 The Gaffer should analyse the existing loads on a distribution panel and determine the excess capacity that may be used for the temporary load, before connecting a temporary power distribution system to the panel.

3.2.3 The Gaffer should notify other users of power from the same panel that their loads may be disconnected if the main breaker feeding the panel is tripped under overload conditions (i.e., for such permanent loads as interior building lights, exit lights, emergency lighting, computers, phone system and elevators). The Gaffer should determine which loads will potentially create a safety hazard if shut down and should take suitable precautionary actions.

3.2.4 Temporary leads exiting a distribution panel should be secured such that the weight of any cables does not put a strain on any electrical connector.

3.2.5 Temporary leads which cannot be passed through CSA approved cable clamps in the side of the distribution panel and which must pass through the front opening of the panel in such a manner that the covers cannot be replaced, should be clearly marked identifying the electrical hazard and the name of the person responsible for the installation. If the panel is in an electrical room, all doors opening directly into the room shall be posted with the above warning (as per section 41 of Reg. 851).

3.2.6 Where 2 or more distribution panels are used to feed the temporary distribution systems, the systems should be kept physically separate from

each other. Under no condition should two (2) or more distribution panels be used to feed a single temporary distribution system (i.e., one with a single main trunk).

4.0 TEMPORARY POWER DISTRIBUTION

4.1 Tying-in shall not be performed in the rain, since the protection provided by insulated PPE required by Rule 2 - 306 of OESC will be negated by the rain.

4.2 Appropriate proper non-conducting protective equipment such as rubber-soled shoes, rubber gloves, and mats shall be worn / used when tying-in (as per Rule 2 - 306 of OESC).

4.3 A separate ground that is not returned to neutral should be part of any electrical distribution system.

4.4 Connectors and cable shall be provided with standard colour coding:

Red, Blue, Black	Line
White	Neutral
Green	Ground

Where single conductor cables are used, the colour codes should be applied with coloured tape to both ends of each cable before the cables are connected. Care shall be taken to ensure that any `length' colour coding is not confused with the above coding

4.5 All electrical personnel shall be aware of the load bearing capacity of each type of cable, adaptor, or distribution box in use on the set. Refer to Tables 1, 2 and 3.

4.6 All power feeds should be protected from mechanical damage. In high traffic areas, cables shall be laid in troughs or shall be covered.

4.7 All Electrical Distribution Boxes as shown in Table 1 shall be labelled as to the rated voltage and current.

4.8 Any "T-off" or other connection that is not being used should be sealed or capped to prevent accidental electrical contact.

4.9 A fused or breakered disconnect box of suitable amperage should be used between the power source and the "on set" distribution when tying-in.

4.10 All distribution boxes and cable connections should be kept clear of water or damp surfaces by use of non-conducting material.

4.11 If it is not practical to disconnect electrical equipment or conductors from the power supply (i.e., to an energized "T-off"), procedures shall be in use

for building a temporary electrical distribution system, which includes the following sequence:

- load switched – off
- connect the ground
- connect the neutral
- connect the lines
- energize the load

When dismantling a temporary electrical distribution system, the reverse sequence of above procedures shall be in use.

4.12 When work is being performed on any live electrical system, a competent person who is able to recognize the hazards in the work being performed shall be present. A second worker must be properly equipped and trained in all requirements to perform a rescue, including First Aid and CPR. Please refer to Table 4 for information on physiological effects of electric currents.

5. LIGHTING

5.1 Lighting equipment connected to a utility power source shall have CSA approval, C22.2 No. 166 or ESA approval (as per section 40 of Reg. 851).

5.2 Scaffolds or other metal grids used to support lighting or power distribution should be grounded.

5.3 All personnel shall be made aware of high voltages used by gas discharge lamps such as neons, HMIs, CSIs and fluorescents (as per 2.5(2)(a) of OHSA). Anyone using these sources should be familiar with the ballasts used and ensure that any safety devices are in proper working order.

5.4 Any open-faced unit shall have protection against the shrapnel effect caused by an exploding bulb, particularly when in proximity to people.

5.5 Safety wire or chain should be used in proximity to people.

5.6 In the event of a power or lighting system failure, emergency lighting should be provided to illuminate a safe means of egress.

6.0 CARRYING AND HANDLING

6.1 When carrying or handling equipment, protective footwear should be worn at all times. CSA Z-195 Standard, Protective Footwear Grade 1 type is recommended (as per section 23 of O. Reg. 213/91).

6.2 In addition to protective footwear, protective equipment including gloves, protective glasses, etc., shall be worn when carrying, handling or moving hot luminaries. Bulbs should be allowed to cool sufficiently before the luminaries are moved.

6.3 Correct procedures should be exercised when performing lifting, lowering, carrying, pushing and pulling tasks.

Tasks involving lifting, lowering, pushing, pulling and carrying are difficult to analyse. Concerns may arise if the object handled is bulky or asymmetric, and/or if awkward postures are used when performing these tasks. If a concern exists when handling a load greater than 18 lbs. in weight, a Ministry of Labour ergonomist may be contacted. A list of all MOL regional offices can be found at the following website: www.labour.gov.on.ca

The following are some factors affecting maximum acceptable weight of lifting, lowering and carrying, and forces of push and pull:

a) vertical distance from floor;

b) distance of lift/lower/carry/push/pull;

c) frequency of activity;

d) percentage of industry population capable of performing the task;

e) width of object away from body; and

f) physical dimensions of the person performing task.

6.4 Refer to Guideline No. 22, (Mobile Elevating Equipment) and Guideline No. 23 (Scaffolding) for scaffold work protection while erecting, dismantling, ascending and working on same.

7.0 OPERATIONS

7.1 The Gaffer should maintain a log book of major equipment repairs performed "on set".

7.2 Any equipment, cable or box that has been repaired "on set" shall be carefully tested for continuity and polarity before being re-used. Rental equipment that has been repaired on set should have the details of the repair noted on the equipment so that the rental company can verify that the repair has been properly completed.

7.3 All lighting fixtures and/or stands shall be adequately supported and weighted, etc., to prevent tipping.

7.4 In the event of rain or high humidity, all Human Machine Interfaces (HMIs) or similar units shall be covered to prevent rain from entering the unit and ballast (as required by Rule 2 – 400 of OESC).

7.5 The ballast and head must be grounded.

7.5.1 Prior to "striking" an HMI or similar source, the operators shall make sure that no one is in contact with the unit, any support, or the ballast.

7.5.2 In damp or rainy conditions make sure that any other persons are clear of the lamp head, as humid conditions increase the conductivity of the air, and thus the likelihood of arcing.

7.6 All personnel on a set shall be advised that various "arc" type lamps including HMIs emit much larger amounts of ultra-violet (UV) light than tungsten lamps. Care should be taken to protect against skin and eye damage when they are set up close to people.

Before a lighting fixture is relamped, repaired or otherwise worked on, the fixture shall be switched off **and** disconnected from the power source.

8.0 MISCELLANEOUS

8.1 Lasers shall be operated by a competent technician.

8.1.1 Eye damage will result from looking directly into a laser source.

8.1.2 No one should ever look directly into a laser source.

8.1.3 Consult a laser technician for additional possible hazards.

9. FALL PROTECTION FOR SCAFFOLD ERECTION AND DISMANTLING

a) Positive fall protection must be used when a worker is at risk of falling a distance of at least 3metres. Generally, positive fall protection could include the following: a guardrail, a fall arrest system, a travel restraint system, a specially equipped ladder. See also Guideline No. 21 entitled: Working at Heights.

b) A fall arrest system consisting of a full body harness, safety belt, lanyard and large locking snap hook, may be used by workers engaged in erecting or dismantling a scaffold.

c) When lifting materials more than 3 frames in height from ground level, a well wheel and devit should be used. The worker stationed on the scaffold platform receiving the material must be equipped with a fall arrest system. Where practicable a lifeline connected to a fixed structure or building and/or horizontal or vertical static line should be used.

TABLE 1

ELECTRIC DISTRIBUTION BOX

BOX#	PHASES	BREAKERS	LINE CONNECTOR	LOAD CONNECTOR	MAXIMUM OUTPUT LOAD PER CONNECTOR
1.	3-PHASE	350 Amp. 3 POLE	CAM LOK	CAM LOK	315 Amps
2.	SINGLE*		CAM LOK	PYLE NATIONAL	
3	3-PHASE		CAM LOK	PYLE NATIONAL	
4.	SINGLE	6 x 60 Amp	CAM LOK	6 x 45A JOY	5 KW
4A	3-PHASE	6 x 60 Amp	CAM LOK	6 x 45A JOY	5 KW
5	SINGLE	2 x 60 Amp 2 POLE	CAM LOK	2 x 4 PIN 60 Amp JOY	
5A	3-PHASE	3 x 60 Amp 2 POLE	CAM LOK (1 x 5 wire)	3 x 4 PIN 60 Amp JOY	
6	SINGLE	6 x 20 Amp	4 PIN JOY	6 x 20 Amp JOY	2 KFW
6A	SINGLE	6 x 20 Amp	4 PIN JOY	6 x DUPLEX "U" 15 Amp	2 KFW
6 SPECIAL	SINGLE	2 x 40 Amp 4 x 20 Amp	4 PIN JOY	2 x 45A JOY 4 X 20A JOY	5 KW or 2 KW
7	SINGLE	2 x 60 Amp	4 PIN JOY	2 x 45 Amp JOY	5 KW
8	SINGLE	3 x 20 Amp	5K JOY	3 x 20 Amp JOY	2 KW
8A	SINGLE	3 x 20 Amp	5K JOY	3 x DUPLEX "U" 15 Amp	2 KW
9					
10	3-PHASE	3 x 100 Amp	CAM LOK	CAM LOK	10 KW

*SINGLE refers to 1 phase 3 WIRE – See 3.0.2 of this appendix

TABLE 2

ADAPTORS

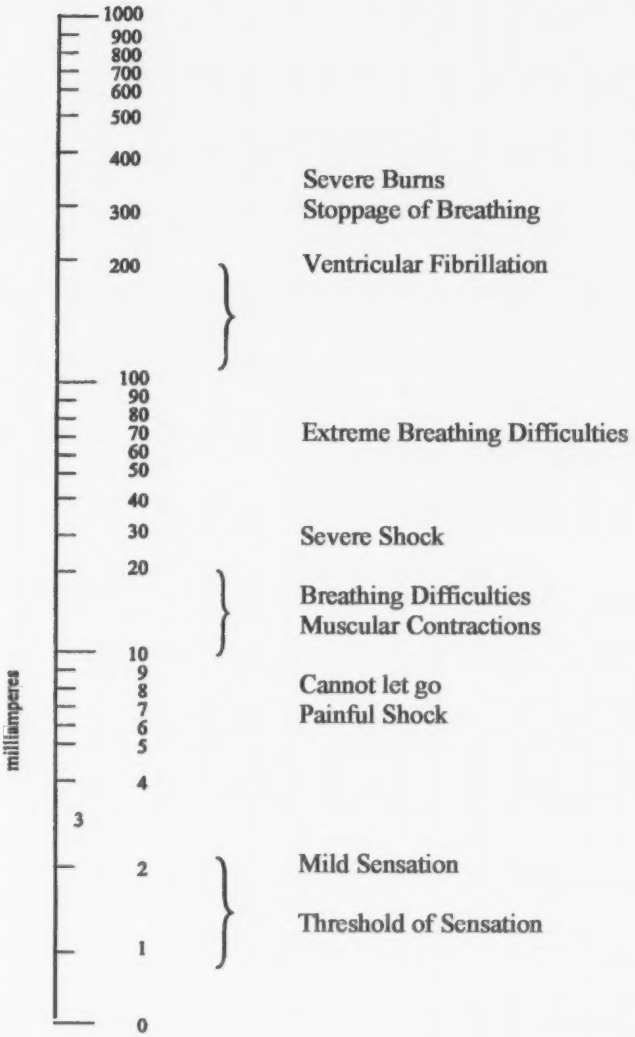
PHASES	NAME	BREAKERS FUSES	LINE CONNECTORS	LOAD CONNECTOR	MAXIMUM OUTPUT PER CONNECTOR
	20 Amp 4-WAY	-	20 Amp JOY	2 x DUPLEX U 15 Amp	2 KW
	50 Amp 4 WAY	4 x 20 Amp	45 Amp JOY	2 x DUPLEX U 15 Amp	2 KW
3-PHASE	200 Amp FUSED DISCONNECT	3 X 200 Amp	CAM LOK (1 x 5 WIRE)	CAM LOK 2(1 x 5 WIRE)	160 Amp
3-PHASE	400 Amp FUSED DISCONNECT	3 x 400 Amp	CAM LOK (1 x 5 WIRE)	CAM LOK	320 Amp
	8-WAY	4 x 20 Amp	45 Amp JOY	4 x DUPLEX U 15 Amp	2 KW

TABLE 3

Cable Size	Nominal Amperes
4/0	315 /phase
3/0	230 /phase
2/0	175 /phase
2	115 /phase
6/4 Joy	60 /phase
6/3 5K Joy	45 /phase
10/3 Twist Lock	30
12/3 S/SO/SJ	20
14/3 SJ	15
16/3 SJ	10

The rating of a cable may be less than that shown in the above Table if cables are bundled tightly together, are covered with mats or set pieces, if the insulation has deteriorated, and in high ambient heat conditions.

TABLE 4



PHYSIOLOGICAL EFFECTS OF ELECTRIC CURRENTS

Ref.: (1) University of California
(2) IRE Transactions on Medical Electronics

APPENDIX C: ADVERSE WEATHER CONDITIONS

This information applies to any four-hour period.
Warm-up breaks are assumed to provide 10 minutes in a warm environment.
These guidelines apply to workers wearing dry clothing.

Sunny sky Air temperature		No noticeable wind		Wind 8 km/h (5 mph)		Wind 16 km/h (10 mph)		Wind 24 km/h (15 mph)		Wind 32 km/h (20 mph)	
°C below zero*	°F below zero	Max. work period	Number of breaks	Max. work period	Number of breaks	Max. work period	Number of breaks	Max. work period	Number of breaks	Max. work period	Number of breaks
26 to 28	15 to 19	normal breaks	1	normal breaks	1	75 minutes	2	55 minutes	3	40 minutes	4
29 to 31	20 to 24	normal breaks	1	75 minutes	2	55 minutes	3	40 minutes	4	30 minutes	5
32 to 34	25 to 29	75 minutes	2	55 minutes	3	40 minutes	4	30 minutes	5	Non-emergency work should stop	
35 to 37	30 to 34	55 minutes	3	40 minutes	4	30 minutes	5	Non-emergency work should stop			
38 to 39	35 to 39	40 minutes	4	30 minutes	5	Non-emergency work should stop					
40 to 42	40 to 44	30 minutes	5	Non-emergency work should stop							
43 and below	45 and below	Non-emergency work should stop									

** all temperatures are approximate*

Apply the schedule one step lower for work with limited physical activity. For example, at -35° C (-35° F) with no noticeable wind, a worker with a job requiring little physical movement should have a maximum work period of 40 minutes with four breaks in a four-hour period.

If reliable weather reports are not available, use the following as a guide to estimate wind velocity:

- An 8 km/h (5 mph) wind will move a light flag
- A 16 km/h (10 mph) wind will fully extend the flag
- A 24 km/hr (15 mph) wind will raise a newspaper sheet
- A 32 km/h (20 mph) wind will produce blowing and drifting snow

If only the Wind Chill Factor (in watts per square metre) or Equivalent Temperature are available, a rough guide for applying them, rather than the temperature and wind velocity factors above, would be:

- Special warm-up breaks should be initiated at a wind chill of about 1750 (Equivalent Temperature of -32° C)

- All non-emergency work should stop at or before a wind chill of 2250 (Equivalent Temperature of -51° C)

If wind speeds are higher than those identified in the chart, a wind chill value of 2250 (or Equivalent Temperature of -51° C) should be used to determine the point at which all non-emergency work should stop.

Reference:

Work Warm-up Schedule for Outdoor Activities; Occupational Health and Safety Division Saskatchewan Department of Labour
http://www.labour.gov.sk.ca/coldconditions/

WIND CHILL CALCULATION CHART

Wind chill for temperatures from +5 to -20°C						
T_{air} (°C) / V_{10} (km/h)	5	0	-5	-10	-15	-20
5	4	-2	-7	-13	-19	-24
10	3	-3	-9	-15	-21	-27
15	2	-4	-11	-17	-23	-29
20	1	-5	-12	-18	-24	-30
25	1	-6	-12	-19	-25	-32
30	0	-6	-13	-20	-26	-33
35	0	-7	-14	-20	-27	-33
40	-1	-7	-14	-21	-27	-34
45	-1	-8	-15	-21	-28	-35
50	-1	-8	-15	-22	-29	-35
55	-2	-8	-15	-22	-29	-36
60	-2	-9	-16	-23	-30	-36
65	-2	-9	-16	-23	-30	-37
70	-2	-9	-16	-23	-30	-37
75	-3	-10	-17	-24	-31	-38
80	-3	-10	-17	-24	-31	-38

Wind chill for temperatures from -25 to -50°C						
T_{air} (°C) / V_{10} (km/h)	-25	-30	-35	-40	-45	-50
5	-30	-36	-41	-47	-53	-58
10	-33	-39	-45	-51	-57	-63
15	-35	-41	-48	-54	-60	-66
20	-37	-43	-49	-56	-62	-68
25	-38	-44	-51	-57	-64	-70
30	-39	-46	-52	-59	-65	-72
35	-40	-47	-53	-60	-66	-73
40	-41	-48	-54	-61	-68	-74
45	-42	-48	-55	-62	-69	-75
50	-42	-49	-56	-63	-69	-76
55	-43	-50	-57	-63	-70	-77
60	-43	-50	-57	-64	-71	-78
65	-44	-51	-58	-65	-72	-79
70	-44	-51	-58	-65	-72	-80
75	-45	-52	-59	-66	-73	-80
80	-45	-52	-60	-67	-74	-81

where
T_{air} = Actual Air Temperature in °C
V_{10} = Wind Speed at 10 metres in km/h (as reported in weather observations)

Notes:

1. For a given combination of temperature and wind speed, the wind chill index corresponds roughly to the temperature that one would feel in a very light wind. For example, a temperature of -25°C and a wind speed of 20 km/h give a wind chill index of -37. This means that, with a wind of 20 km/h and a temperature of -25°C, one would feel as if it were -37°C in a very light wind.
2. Wind chill does *not* affect objects and does *not* lower the actual temperature. It only describes how a human being would feel in the wind at the ambient temperature.
3. The wind chill index does *not* take into account the effect of sunshine. Bright sunshine may reduce the effect of wind chill (make it feel warmer) by 6 to 10 units.

Frostbite Guide

Low risk of frostbite for most people
Increasing risk of frostbite for most people within 30 minutes of exposure
High risk for most people in 5 to 10 minutes of exposure
High risk for most people in 2 to 5 minutes of exposure
High risk for most people in 2 minutes of exposure or less

Reference:

Wind Chill Calculation Chart
Environment Canada Wind Chill Program
http://www.ec.gc.ca/meteo-weather/default.asp?lang=En&n=0F42F92D-1

Wind Chill Hazards

Check the wind chill before you go outdoors in the winter, and make sure you are well prepared for the weather. Even moderate wind chill values can be dangerous if you are outside for long periods.

Note: The guidelines on frostbite in the table below apply to healthy adults.

Wind Chill Hazards and Risk of Frostbite			
Wind Chill	**Risk of frostbite**	**Health Concern**	**What to do**
0 to -9	Low	- Slight increase in discomfort	- Dress warmly, with the outside temperature in mind.
-10 to -27	Low	- Uncomfortable - Risk of hypothermia if outside for long periods without adequate protection	- Dress in layers of warm clothing, with an outer layer that is wind-resistant. - Wear a hat, mittens and scarf. - Keep active.
-28 to -39	Increasing risk: exposed skin can freeze in 10 to 30 minutes	- Check face and extremities (fingers, toes, ears and nose) for numbness or whiteness - Risk of hypothermia if outside for long periods without adequate protection	- Dress in layers of warm clothing, with an outer layer that is wind-resistant. - Cover exposed skin: wear a hat, mittens and a scarf, neck tube or face mask. - Keep active.
-40 to -47	High risk: exposed skin can freeze in 5 to 10 minutes*	- Check face and extremities (fingers, toes, ears and nose) for numbness or whiteness (frostbite) - Risk of hypothermia if outside for long periods without adequate protection	- Dress in layers of warm clothing, with an outer layer that is wind-resistant. - Cover all exposed skin: wear a hat, mittens and a scarf, neck tube or face mask. - Keep active.
WARNING LEVEL** -48 to -54	High risk: exposed skin can freeze in 2 to 5 minutes*	- Check face and extremities frequently for numbness or whiteness (frostbite) - Serious risk of hypothermia if outside for long periods	- Be careful. Dress very warmly in layers of clothing, with an outer layer that is wind-resistant. - Cover all exposed skin: wear a hat, mittens and a scarf, neck tube or face mask. - Be ready to cut short or cancel outdoor activities. - Keep active.
-55 and colder	High risk: exposed skin can freeze in less than 2 minutes	DANGER! - Outdoor conditions are hazardous	- Stay indoors.

* In sustained winds over 50 km/h, frostbite can occur faster than indicated.

**In parts of the country with a milder climate (such as southern Ontario and the Atlantic provinces except Labrador), a wind chill warning is issued at about -35. Further north, people have grown more accustomed to the cold, and have adapted to the more severe conditions. Because of this, Environment Canada issues warnings at progressively colder wind chill values as you move north. Most of Canada hears a warning at about -45. Residents of the Arctic, northern Manitoba and northern Quebec are warned at about -50, and those of the high Arctic, at about -55.

Reference:

Wind Chill Hazards and Risk of Frostbite
Environment Canada Wind Chill Program
http://www.ec.gc.ca/meteo-weather/default.asp?lang=En&n=0F42F92D-1

Note from MOL:

It should be noted that wetness increases heat loss and that sweating should be avoided by dressing in layers and that wet clothing should be replaced by dry clothing.

HEAT STRESS

Health and Safety Guideline
Produced by Specialized Professional Services
Revised: April 2003
Reviewed: June 2007
Revised: May 2009
ISBN 978-1-4249-9945-3 (Print)

Legal Requirements:
Employers have a duty under section 25(2)(h) of the Occupational Health and Safety Act to take every precaution reasonable in the circumstances for the protection of a worker. This includes developing hot environment policies and procedures to protect workers in hot environments due to hot processes or hot weather.

For compliance purposes, the Ministry of Labour recommends the Threshold Limit Values (TLVs) for Heat Stress and Heat Strain published by the American Conference of Governmental Industrial Hygienists (ACGIH). These values are based on preventing unacclimatized workers' core body temperatures from rising above 38°C.

This Guideline is intended to assist employers, workers and other workplace parties in understanding heat stress, and in developing and implementing policies to prevent heat stress-related illness in the workplace.

WHAT IS HEAT STRESS?

Working or playing where it is hot puts stress on your body's cooling system. When heat is combined with other stresses such as hard physical work, loss of fluids, fatigue or some medical conditions, it may lead to heat-related illness, disability and even death.

This can happen to anybody-even the young and fit. In Ontario, heat stress is usually a concern during the summer. This is especially true early in the season, when people are not used to the heat.

Heat exposure may occur in many workplaces. Furnaces, bakeries, smelters, foundries and heavy equipment are significant sources of heat inside workplaces. For outdoor workers, direct sunlight is usually the main source of heat. In mines, geothermal gradients and equipment contribute to heat exposure. Humidity in workplaces also contributes to heat stress.

HOW WE COPE WITH HEAT

Your body is always generating heat and passing it to the environment. The harder your body is working, the more heat it has to lose. When the environment is hot or humid or has a source of radiant heat (for example, a furnace or the sun), your body must work harder to get rid of its heat.

If air is moving (for example, from fans) and it is cooler than your body, it is easier for your body to pass heat to the environment.

Workers on medications or with pre-existing medical conditions may be more susceptible to heat stress. These workers should speak to their personal physicians about work in hot environments.

HEAT STRESS-RELATED DISORDERS

A summary of heat stress-related disorders, causes, symptoms, treatment and prevention is presented in the table below.

	Cause	Symptoms	Treatment	Prevention
Heat Rash	Hot humid environment; plugged sweat glands.	Red bumpy rash with severe itching.	Change into dry clothes often and avoid hot environments. Rinse skin with cool water.	Wash regularly to keep skin clean and dry.
Heat Cramps	Heavy sweating from strenuous activity drains a person's body of fluid and salt, which cannot be replaced just by drinking water. Cramps occur from salt imbalance resulting from failure to replace salt lost from heavy sweating	Painful cramps commonly in the most worked muscles (arms, legs or stomach) which occur suddenly at work or later at home. Heat cramps are serious because they can be a warning of other more dangerous heat-induced illnesses.	Move to a cool area; loosen clothing, gently massage and stretch affected muscles and drink cool salted water (1/4 to 1/2 tsp. salt in 1 litre of water) or balanced commercial fluid electrolyte replacement beverage. If the cramps are severe or don't go away after salt and fluid replacement, seek medical aid. Salt tablets are not recommended	Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot the symptoms that often precede heat stroke.
Fainting	Fluid loss and inadequate water intake.	Sudden fainting after at least two hours of work; cool moist skin; weak pulse.	GET MEDICAL ATTENTION. Assess need for CPR. Move to a cool area; loosen clothing; make person lie down; and if the person is conscious, offer sips of cool water. Fainting may also be due to other illnesses.	Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot the symptoms that often precede heat stroke.
Heat Exhaustion	Fluid loss and inadequate salt and water intake causes a person's body's cooling system to start to break down.	Heavy sweating; cool moist skin; body temperature over 38°C; weak pulse; normal or low blood pressure; person is tired and weak, and has nausea and vomiting; is very thirsty; or is panting or breathing rapidly; vision may be blurred.	GET MEDICAL ATTENTION. This condition can lead to heat stroke, which can kill. Move the person to a cool shaded area; loosen or remove excess clothing; provide cool water to drink; fan and spray with cool water.	Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot the symptoms that often precede heat stroke.
Heat Stroke	If a person's body has used up all its water and salt reserves, it will stop sweating. This can cause body temperature to rise. Heat stroke may develop suddenly or may follow from heat exhaustion.	High body temperature (over 41°C) and any one of the following: the person is weak, confused, upset or acting strangely; has hot, dry, red skin; a fast pulse; headache or dizziness. In later stages, a person may pass out and have convulsions.	CALL AMBULANCE. This condition can kill a person quickly. Remove excess clothing; fan and spray the person with cool water; offer sips of cool water if the person is conscious.	Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot the symptoms that often precede heat stroke.

CONTROLLING HEAT STRESS

Acclimatization

The longer you work in a hot environment, the better your body becomes at adjusting to the heat. This is called "acclimatization". If you are ill or away from work for a week or so you can lose your acclimatization.

To become acclimatized, the following may be considered:

1. If you are experienced on the job, limit your time in hot working conditions to 50 per cent of the shift on the first day, 60 per cent of the shift on the second day, and 80 per cent of the shift on the third day. You can work a full shift the fourth day.

   If you are not experienced on the job (if you are, for example, a new employee), you should start off spending 20 per cent of the time in hot working conditions on the first day and increase your time by 20 per cent each subsequent day.

2. Instead of reducing the exposure times to the job in a hot environment, you can become acclimatized by gradually increasing the physical demands of the job over a week or two.

If you have health problems or are not in good physical condition, you may need longer periods of acclimatization. Hot spells in Ontario seldom last long enough to allow acclimatization. However, exposure to workplace heat sources may permit acclimatization.

When there is a potential exposure to heat stress, control measures must be taken to prevent heat exposure in the workplace. These include engineering controls, administrative controls and protective clothing. Selection of appropriate workplace controls will vary, depending on the type of workplace and other factors. Some measures may include:

Engineering Controls

- Reduce physical demands of work task through mechanical assistance (hoists, lift-tables, etc.).
- Control the heat at its source through the use of insulating and reflective barriers (e.g. insulate furnace walls).
- Exhaust hot air and steam produced by operations.
- Reduce the temperature and humidity through air cooling.
- Provide cool, shaded work areas.
- Provide air-conditioned rest areas.
- Increase air movement if temperature is less than 35°C (e.g. use of fans).

Administrative Controls

- The employer should assess the demands of all jobs and have monitoring and control strategies in place for hot days and hot workplaces.
- Increase the frequency and length of rest breaks.
- Schedule strenuous jobs to cooler times of the day.
- Provide cool drinking water near workers and remind them to drink a cup about every 20 minutes.
- Caution workers to avoid direct sunlight.
- Assign additional workers or slow down the pace of work.
- Make sure everyone is properly acclimatized.
- Train workers to recognize the signs and symptoms of heat stress and start a "buddy system" since people are not likely to notice their own symptoms.
- Pregnant workers and workers with a medical condition should discuss working in the heat with their physicians.
- First Aid responders and an emergency response plan should be in place in the event of a heat-related illness.
- Investigate any heat-related incidents.

Protective Clothing

- Light summer clothing should be worn to allow free air movement and sweat evaporation.
- Outdoors, wear light-coloured clothing.
- In a high radiant heat situation, reflective clothing may help.
- For very hot environments, air, water or ice-cooled insulated clothing should be considered.
- Vapour barrier clothing, such as chemical protective clothing, greatly increases the amount of heat stress on the body, and extra caution is necessary such as heat strain (physiological) monitoring.

MANAGING HEAT STRESS FROM PROCESS HEAT

For an environment that is hot primarily due to process heat (furnaces, bakeries, smelters, etc.), the employer should follow the guidance of the American Conference of Governmental Industrial Hygienists (ACGIH) as outlined in its booklet and documentation for the recommended Threshold Limit Values (TLVs), and set up a heat stress control plan in consultation with the workplace's joint health and safety committee or worker health and safety representative.

Further information on the ACGIH TLVs, and on the development of heat stress control plans, may be found at the following websites:

ACGIH

http://www.acgih.org/home.htm

U.S. Occupational Safety and Health Administration (OSHA)

http://www.osha.gov/dts/osta/otm/otm_iii/otm_iii_4.html

MANAGING HEAT STRESS INDUCED BY HOT WEATHER

Most workplaces don't have "hot processes" but working in hot weather can pose health risks to their workers. For hot work environments due to hot weather, a hot weather plan is appropriate. A hot weather plan is a simplified heat stress control plan. A hot weather plan should establish the implementation criteria, or "triggers", to put the plan into effect. The criteria may include weather /environmental indicator triggers such as:

- Humidex reaching or exceeding 35;
- Environment Canada Humidex advisory (air temperature exceeding 30° C and Humidex exceeding 40);
- Environment Canada weather reports;
- Heat waves (three or more days of temperatures of 32° C or more); and/or
- Ontario Ministry of the Environment smog alert.

Generally, plans related to hot weather should be in place between May 1 and September 30 of each year.

The following websites have information on Humidex, Weather Reports and Smog Alerts:

Environment Canada

http://www.ec.gc.ca/meteo-weather

Environment Canada Fact Sheet: Summer Severe Weather

http://www.ec.gc.ca/meteo-weather/default.asp?lang=En&n=6C5D4990-1

Environment Canada Weather Office

http://www.weatheroffice.ec.gc.ca/canada_e.html

Air Quality Ontario Smog Advisories

http://www.airqualityontario.com/

OTHER RESOURCES

Additional information on methods to monitor and manage workplace heat exposures may be found in the following resources:

WSIB Prevent Heat Stress

http://www.wsib.on.ca/en/community/WSIB/ArticleDetail?vgnextoid=f062e35c819d7210VgnVCM100000449c710aRCRD

This website provides links to information and tools on heat stress awareness, monitoring and control measures.

A link is given to access the "Heat Stress Awareness Toolkit" which includes a **guidebook**, a **poster**, and a **tool** to determine Humidex guidelines. This toolkit was developed by the members of the Occupational Health and Safety Council of Ontario (OHSCO).

Prevention Dynamics Ontario's Virtual Health and Safety Portal

http://www.preventiondynamics.ca/

This website provides links to health and safety information, training materials, and consulting services offered by Ontario's Health and Safety Associations and Partners.

Note: *Links to external websites are offered for the convenience of users in accessing related information. These links do not constitute an endorsement of the websites or their contents and the Ministry of Labour takes no responsibility for the views, contents or accuracy of the information presented by an external website.*

Remember that while complying with occupational health and safety laws, you are also required to comply with applicable environmental laws.

For further information or assistance, please call the Ministry of Labour Health & Safety Contact Centre.

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APPENDIX D: FLOTATION GARMENTS

The need for hypothermia protection varies by season. The following explains the primary characteristics of Personal Flotation Devices (PFDs), Life Jackets, Anti-Exposure Work Suits and Immersion Suits.

Personal Flotation Devices (PFDs)

A PFD, in its most basic form, is a sleeveless torso vest with a minimum level of buoyancy. It is not a life jacket, and therefore, does not guarantee self-righting or keeping the head clear of the surface in other than calm conditions. It will keep the wearer at the surface and provides a reasonable level of protection for an experienced swimmer, except in rough conditions. It is valuable to a non-swimmer in calm conditions and shallow water where rescue is close at hand.

It does not provide hypothermia protection and should not be used in water temperatures lower than 15 degrees Celsius.

Life Jackets

There are three types of life jackets in the Canadian standards: the Small Vessel Regulation Life Jacket, the Canadian Steamship Regulation Life Jacket and the SOLAS Life Jacket. The required life jacket is dependent on the size of the vessel.

By definition, a life jacket should provide an unconscious person self-righting and a guaranteed floating position which allows for breathing. The Canadian Life Jackets address these characteristics in various degrees; the Small Vessel Life Jacket, to a limited extent; the Standard Life Jacket for the most part; and the SOLAS Life Jacket in all respects.

Life jackets protect against early drowning much better than basic PFDs, particularly in heavy water. Life jackets provide no hypothermia protection at all; this is important to note because research shows that most victims who drown prior to suffering the effects of hypothermia do so within six minutes of immersion.

Anti-Exposure Work Suits

The anti-exposure work suit has the same minimum buoyancy requirements as a PFD. It has good hypothermia protection that should allow for about two hours survival in 0 degrees Celsius water and increasing to about 6 hours in 15 degree Celsius water.

Immersion Suits

Immersion suits provide the highest degree of buoyancy and hypothermia protection.

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APPENDIX E: DEFINITIONS

Note: The definitions which have not been taken from the Occupational Health and Safety Act and regulation under this Act are provided for convenience only and should not be interpreted to have legal significance.

Act: The Occupational Health and Safety Act, R.S.O. 1990. (OHSA)

Aerial or Elevating Work Platforms: Hydraulic or electrical controlled devices used to elevate personnel or materials. These include: scissor lifts, articulated boom lifts, individual personnel lifts, self-propelled lifts, manual "push-around" lifts, elevating rolling work platforms, self-propelled elevating work platforms, boom-type elevating work platforms, and vehicle-mounted aerial devices.

Authorized: Certified by a professional engineer.

Anchorage: Certified point of attachment for lifelines, lanyards or deceleration devices.

Best Practice: A program, process, strategy or activity that:

- has been shown to be effective in the prevention of workplace injury or illness;
- has been implemented, maintained and evaluated;
- is based on current information; and
- is of value to, or transferable to, other organizations.

Best practices are living documents and must be reviewed and modified regularly to assess their validity, accuracy and applicability. They may exceed the requirements of the Occupational Health and Safety Act.

Competent Person: *"A person who:*

(a) is qualified because of knowledge, training and experience to organize the work and its performance;

(b) is familiar with this Act and the regulations that apply to the work; and

(c) has knowledge of any potential or actual danger to health or safety in the workplace." [s. 1(1), OHSA]

Connector: A self-closing device used to connect various parts of personal fall arrest or work-positioning systems.

Construction: Includes erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project. [s.1 (1), OHSA]

Deceleration Device: Any mechanism, such as a rope grab, rip-stop lanyard, integral lanyard, tearing or deforming lanyard, automatic self-retracting lifeline/lanyards, etc., which serves to dissipate a substantial amount of kinetic energy during a fall, and thus limit the arrest force.

Deceleration Distance: The distance between the location of a worker's full body harness attachment point at the moment the deceleration device is activated during a fall and the location of that attachment point after the worker comes to a full stop.

Due Diligence: The level of judgement, care, prudence, determination, and activity that a person would reasonably be expected to display in particular circumstances. Regarding occupational health and safety, this means taking all reasonable precautions, in the particular circumstances, to prevent injuries to workers in the workplace.

Fall Protection: A method of minimizing the possibility of falling.

Fall Arrest: A method of minimizing the effects of a fall.

Fall Restricting: A work positioning system used to minimize the distance of a fall to 60 cm (2 feet).

Free Fall: The act of falling before a personal fall arrest system begins to activate.

Free Fall Distance: The vertical distance between the on set of the fall to the point where the fall arrest system begins to apply force to arrest the fall.

Full Body Harness: A manufactured system of webbing secured about the worker in a manner that will distribute the fall arrest forces equally over the thighs, pelvis, waist, chest and shoulders with a means of attaching it to other components of a personal fall arrest system.

Guardrail System: A temporary or permanent barrier erected to prevent employees from falling to lower levels.

Industrial Establishment: An office building, factory, arena, shop or office, and any land, buildings and structures appertaining thereto. [s.1 (1), OHSA]

Lanyard: Flexible line of rope, wire rope or strap which generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.

Life Line: A flexible line connected to an anchorage at one end to suspend vertically (vertical lifeline), or connected to anchorages at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.

Lifts: Aerial or elevating work platforms.

Lighting Rigging: The placement and strike of luminaries and/or cables for a production.

Load-In or Take-In (fit-ups, set-up): The initial delivery and installation of production elements including scenery, electrics, audio, etc. at the rehearsal or performance venues.

Load-Out or Take-out (Strike, Take Down): The dismantling and removal of production elements including scenery, electrics, audio, etc. from the location venue.

Location Venue: A venue may be depending upon its use, any one or more, of a rental venue for use by production companies.

Lower Levels: Areas or surfaces to which a worker can fall. Such areas or surfaces include, but are not limited to, ground levels, floors, platforms, ramps, runways, orchestra pits, traps, water, equipment, structures, or portions thereof.

Opening: Gap or void 30 inches (76 cm) or more high and 18 inches (48 cm) or more wide, in a wall or partition, through which a worker can fall to a lower level.

Over-Climbing: Climbing above a primary anchor point.

Personal Fall Arrest System: System used to arrest a worker in a fall from an elevation. It consists of an anchorage, connectors and full-body harness, and may include a lanyard, deceleration device and/or lifeline.

Re-Set: The moving of production elements to prepare for filming.

Risk Assessment: The identification of hazards so that controls (administrative, engineering, personal protective equipment – PPE) can be implemented.

Rope Grab: Deceleration device which travels on a lifeline and automatically, by friction, engages the lifeline and locks to arrest the fall of a worker.

Rolling A-Frame Ladders: An A-Frame ladder positively attached to a dolly board. The locking castor wheels are to be outside the profile of the ladder. Fall Arrest should be used if working beyond the ladder profile.

Self-Propelled Elevating Work Platforms; Self-propelled platforms; Scissor lifts: A portable work station which is moved along the floor/ground/deck by mechanical means.

Self-Retracting Lifeline/Lanyard: A deceleration device that automatically adjusts its length under mild tension and arrests a fall.

Snap-Hook: Connector comprised of a hook-shaped member with a self-closing keeper, or similar arrangement, which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object.

Supervisor: "A person who has charge of a workplace or authority over a worker." [s.1(1), OHSA.]

Toe-Board: Low protective barrier that is an integral part of a guardrail system and will prevent the fall of materials or equipment to lower levels.

Travel Restraint: A system that prevents workers from reaching an unprotected edge or opening.

Work Positioning Systems: Aerial or elevating work platforms, ladders, boatswain's chairs and scaffolding.

Walking/Working Surface: Any surface, whether horizontal or vertical on which a worker walks or works, such as floors, roofs, ramps, bridges, runways, but not including ladders.

Warning Line System: Temporary demarcation erected to warn workers that they are approaching an unprotected edge. This demarcation shall outline an area at least 2 metres from a

fall hazard in which work may take place without the use of guardrail or safety net systems to protect workers in the area. (May also be referred to as a "bump line")

Work/Maintenance: A scheduled call, outside of shooting schedule times, for maintenance or touch-ups involving any production element(s).

Work Positioning Device System: Full-body harness system rigged to allow a worker to be supported on an elevated surface and work with both hands.

Worker: "*A person who performs work or supplies services for monetary compensation...*" [s. 1 (1), OHSA]

APPENDIX F: Ministry of Labour – Occupational Health and Safety Contact Information

Call the Ministry of Labour Health and Safety Contact Centre

- Report incidents, critical injuries or fatalities

  If it's an emergency, call 911 immediately
- Report possible unsafe work practices
- General occupational health and safety inquiries

Ministry of Labour Health and Safety Contact Centre
1-877-202-0008

Other Ways to Contact the Ministry of Labour

- E-mail: webohs@ontario.ca
- Regional Offices: www.labour.gov.on.ca/english/about/reg_offices.php

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